

## URBREATH [101139711]

Systemic Integration of Transformative Technical and Nature-based Solutions to Improve Climate Neutrality of European Cities and Regions and tackle Climate Change: the URBreath Approach



### D6.7 - Procurement and city preparation for NBS intervention - V1

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<b>Document description</b>	This deliverable analyses public procurement practices for Nature-Based Solutions (NBSs in the four Front Runner Cities (FRCs) of the URBREATH project: Leuven, Tallinn, Cluj-Napoca and Madrid. As the first of two planned releases, it aims to establish a shared knowledge base to support reflection on how public procurement can better enable the implementation of NBSs in urban contexts.

The document provides a comparative overview of the procurement procedures and processes currently adopted by the FRCs, highlighting differences, commonalities and ongoing evolutionary paths towards the “ideal procurement model” for NBSs proposed by URBREATH. It also identifies key challenges, barriers and opportunities faced by cities in applying procurement practices to NBS interventions, and explores areas where procurement innovation could enhance flexibility, integration and effectiveness. Finally, the deliverable outlines a set of key procedural elements and activities to support more integrated NBS interventions and foster convergence of procurement practices across different urban contexts. Conceived as a living document, it will be progressively updated throughout the project to reflect ongoing experimentation and learning within the FRCs. The deliverable has been produced by the Politecnico di Milano team (Task 6.3) in close collaboration with the FRCs, their local partners and public procurement departments, following a co-creation approach that supports mutual learning and knowledge exchange among cities.

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## Disclaimer

The URBREATH project is co-funded by the European Union under grant agreement ID 101139711. The information and views set out in this document are those of the URBREATH Consortium only and do not necessarily reflect those of the European Union. Neither the European Union nor the granting authority can be held responsible for them.

## Executive Summary

The main objective of this deliverable is to describe the different procurement practices in the four Front Runner Cities (Leuven, Tallinn, Cluj-Napoca and Madrid – henceforth: FRCs). This document is the first of two releases and aims to set the basis for a broader discussion on how public procurement might proficiently deal with NBS implementation.

This first release collects the outputs of four main activities, namely:

- Overviewing the procurement procedures and processes in the different FRCs, highlighting their differences and trajectories towards the standardised ideal procurement model drafted in this Deliverable.
- Capturing the challenges, barriers and opportunity of the FRCs' procurement practices, to better understand how the selected pilots can be implemented, structured and organised considering the Plan of Works operating at site.
- Investigating which potential procurement innovations the Cities would like to incorporate in their procurement practices.
- Outlining the key elements of the procedures to be modified to perform better integrated interventions towards a potential convergence of NBS procurement approaches.

This Deliverable investigates the FRCs' procurement models as they stand, although it uses the "ideal procurement model" for NBSs, as proposed by URBREATH, as a theoretical lens. It has been produced by the Politecnico di Milano team, which is leading the project's Task 6.3. However, the development of this Deliverable has been carried out in strong collaboration with the FRCs, their local partners and Public Procurement Departments. Considering the methodology used, it can be said that this Deliverable is a joint effort and has been co-created with the involvement of various partner teams in order for each of the FRCs to learn from the others. Also, it should be considered a "living document", the contents of which concerning public procurement practice and the Plan of Works at each City level will be updated and integrated as the project progresses.

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## List of Terms and Abbreviations

Abbreviation	Definition
NBS(s)	Nature-Based Solutions
FRCs	Front Runner Cities
FLCs	Follower Cities
GPP	Green Public Procurement
IPP	Innovative Public Procurement
SPP	Sustainable Public Procurement
CZ	Climatic Zone
GA	General Assembly
R&D	Research and Development

# 1 Introduction

Procurement for urban greening can follow different models, each of which entails different objectives, procedures and institutional implications, including the following:

## **Green Public Procurement (GPP)**

GPP refers to a process whereby public authorities purchase various kinds of works, goods and services with limited environmental impact, considering the lifetime of the asset procured.

## **Sustainable Public Procurement (SPP)**

SPP takes into consideration the social impacts of public purchases, as well as the environmental ones, with an eye to the well-being of current and future generations.

## **Innovative Public Procurement (IPP)**

IPP refers to a public purchasing process that is aimed at the purchase of innovative solutions, in the sense of “new to the market” (i.e. beyond the technology frontier), and/or “new to the procurer” (i.e. existing but never purchased before).

Procurement of Nature-Based Solutions (NBSs) poses a number of challenges to public buyers, which are not easily accommodated in either the first or the second procurement model. This Deliverable starts from the assumption that the opportunities offered by IPP are not fully grasped in practice.

Whenever NBSs are concerned, at least 4 distinct peculiarities emerge, which make them different from other typologies of green purchases:

1. NBS is an ‘umbrella term’ including quite heterogeneous typologies of works, goods and services (Pauleit et al., 2017; Petersen et al., 2025). This makes the adoption of a ‘product’ oriented approach challenging, and suggests a more ‘performance’ driven one (i.e. more focused on the *Why* than on the *What* is being purchased);
2. NBSs are quite a novelty on the market, which leads to public tenders with a low number of competitors, as the economic operators that are truly experts in this domain are not very many. This may discourage innovation and experimentation of a variety of solutions going out of the ordinary, and/or favour the (inappropriate) adoption of conventional, standard, yet less risky implementation-wise, alternatives;
3. NBSs are also a novelty in the urban planning and greening domains. They introduce longer-term impact considerations and perhaps more demanding maintenance requirements than the (so far known and mostly utilised) ordinary solutions for the enhancement of public spaces. This has an influence on the way procurement criteria are defined and assessed (Sowińska-Świerkosz and Garcia, 2021; Sowińska-Świerkosz and Garcia, 2022);
4. NBS implementation has societal implications on the well-being of citizens and communities going beyond the plain definition of ecosystem services. This leads to considering the potential role that public participation may play in co-defining the priorities of urban greening agendas, including in favouring the installation of new NBSs vs. other types of investment projects (such

as conventional infrastructure or housing). However, stakeholder fatigue and other limitations to the scope of citizen engagement should be taken into account.

## 1.1 Purpose and Scope

The purpose of this Deliverable is to understand how the URBREATH Front Runner Cities (FRCs) — Leuven, Tallinn, Cluj-Napoca, and Madrid — are currently dealing with the process of NBS procurement in their respective sites. Through a combination of desk research, analysis of official documents (such as the Plan of Works, listing the planned investments of a City in a given year), an internal survey of the partners and a face-to-face interaction with City representatives, on the occasion of a workshop held in Tallinn, October 2025, we have managed to highlight the internal processes and the steps performed during an ordinary public procurement process by each FRC.

The overall structure and content are based on identified ‘technical’ and ‘institutional’ requirements of the URBREATH NBS framework, assuming that public procurement processes and practices are strictly related to planning cultures and institutional settings (ref. Deliverable D6.4 - Specific institutional and technical NBS framework - V1, submitted in M20). More specifically, the focus is set on the following:

- Institutional Requirement – Legal and Regulatory Framework (c)
- Technical Requirement – Site Assessment and Suitability Analysis (a)
- Technical Requirement - Maintenance and Management Requirements (d)

With those three initial and preliminary requirements in mind, the work done aimed at disentangling the adopted public procurement models into elements that could cover that information and provide a direction for improvement in implementing more robust NBS public procurement processes. In doing so, a number of ‘best practices’ were identified in the four FRCs and the main elements that distinguish one process from another were acknowledged.

This document, indeed, will have a second release (Deliverable D6.8 - Procurement and city preparation for NBS intervention – V2, M42), where the focus will shift from the baseline analysis to the pilot site activities, with the aim of understanding which ‘deviations’ and changes the URBREATH project brings with it.

## 1.2 Approach for Work Package and Relation to other Work Packages and Deliverables

In line with the work plan of WP6, this Deliverable focuses only on the four URBREATH FRCs, which have to implement selected NBSs in their pilot sites, not just as a project, but also a component of their respective Plan of Works (ref. Deliverable D6.1, submitted in June 2025). Public procurement is a very important part of the implementation process, and for this reason, it is also a module in the ‘Training Mission’ of WP7, as well as the topic of a cycle of 5 webinars on Innovative Public Procurement for NBSs, which was held during the month of October 2025.

At the same time, this Deliverable relies on a specific procurement model that is extensively discussed in [Section 3.1](#), as well as in Deliverable D2.2 - URBREATH methodological framework for urban greening Living Labs and hybrid/NBS interventions and adaptive pathways – V2; with specific reference to the adopted methodology.

While the model has been used as a theoretical reference and guideline to map the procurement activities and procedures in the Front Runner Cities, within the second release of this Deliverable, its replicability and potential use for other cities will also be considered. To that end, we will also explore and collect inputs from the Follower Cities of URBREATH.

Finally, this Deliverable should be understood as a joint effort of all consortium members, combining insights on public procurement (ref. Task 6.3) with related activities on Urban Greening Investment Plans and financial requirements developed under WP7 (ref. Deliverable D7.5 – Front Runner Cities Urban Green Investment Plan – V1, submitted in M24).

### 1.3 Methodology and Structure of the Deliverable

The methodology adopted for this analysis aimed to assess the different public procurement models in place in the 4 FRCs to get an idea of their current state of advancement, their obstacles and challenges in procuring NBS. During the General Assembly (GA) held in Tallinn in October 2025, representatives of the Front Runner Cities (FRCs) were asked to focus on a single project they considered a best practice in the implementation of Nature-Based Solutions (NBS). Building on the stepwise structure of the ‘ideal’ public procurement model developed within URBREATH, city representatives were then invited to map the activities and processes undertaken, with specific reference to NBS procurement. In parallel, A structured Google Form was shared to systematically collect information on the current state of public procurement for NBS. The form focused in particular on identifying perceived challenges, opportunities, and enabling factors within existing procurement models. The findings informed the comparative analysis presented in this Deliverable, anchoring the ideal procurement model in real administrative and operational contexts, while also highlighting the potential of innovative public procurement approaches to address existing limitations and strengthen cities’ capacity to deliver complex, multi-functional NBS.

The analysis of the survey and workshop results was complemented by desk research on the institutional and administrative situation in the FRCs, also with an eye on the different Climatic Zones they belong to. The overall process and the interconnected activities of this part of the work are described in Deliverable D2.2 (submitted in December 2025), which includes both Front Runner Cities and Follower Cities, for a replication outlook. A short summary and overview of the conclusions are provided in [Section 2](#) of this Deliverable.

A detailed presentation of the workshop outcomes and the preliminary results of the survey is provided in [Section 3](#) of this Deliverable.

A global outcome of this research is that the FRCs share the need for a procurement framework that is more Outcome-oriented – i.e. focused on the multi-functional benefits and long-term performance of the NBS – Flexible and innovative – i.e. capable of accommodating novel solutions and fostering market competition among specialised suppliers – and integrated – i.e. aligned with broader climate, social, and economic policies, moving beyond siloed departmental thinking. [Section 4](#) of this Deliverable overviews the distinctive characteristics of Innovative Public Procurement, and with the help of another survey, situates the perspective of adoption and its benefits, but also risks and uncertainties, from the point of view of the partner Cities.

[Section 5](#) concludes the document and overviews the next steps.

## 2 Public Procurement: a brief overview

This section is devoted to positioning the topic of procurement both within the project of URBREATH, considering how this process is key to the actual implementation of NBS in the selected FRC pilot sites, and within the broader topic of NBS procurement and its challenges and opportunities. Overall, this section will examine how public procurement is being discussed in relation to nature restoration, NBS implementation and climate-adaptive policies. As a relatively new topic, literature and debates on how to procure NBSs are still ongoing matters of discussion ([Section 2.1](#)). Furthermore, considering the different planning cultures and practices, it is essential understanding which are the kind of processes that might happen in cities, concerning the different models of doing procurement ([Section 3.2](#)). These models could be a proxy for the next release of this Deliverable, considering how innovative procurement can be adopted in performing NBS implementation projects.

### 2.1 How to procure Nature-Based Solutions?

The integration of NBSs into urban planning and development represents a paradigm shift away from traditional grey infrastructure. This transition necessitates a critical re-evaluation of the mechanisms by which public authorities acquire goods, services, and works, particularly through public procurement. While the overarching goals of Green Public Procurement (GPP) and Sustainable Public Procurement (SPP) aim to incorporate environmental and social considerations, the procurement of NBS presents a unique set of challenges that distinguish it from its predecessors.

#### 2.1.1 The Distinctive Nature of NBS Procurement

Traditional procurement models, often focused on lowest cost and clearly defined technical specifications, are ill-suited for the complexity and multi-functionality of NBS, as well as for transitioning to climate neutrality environment. The initial sections of this deliverable have already highlighted key variables that differentiate NBSs from conventional green spaces, including their novelty, long-term management requirements, and the need for a performance-driven approach. The European Commission, in its analysis of the barriers to urban NBS procurement, reinforces this distinction, noting that many public authorities struggle to adapt their processes to this new typology (European Commission, 2020). The core challenges in procuring NBSs can be categorised into institutional, market, and technical barriers showed in Table 1.

**Table 1: Categorisation of the different barriers that can affect procurement processes**

Barrier Category	Description	Implication for Procurement
<b>Institutional</b>	Lack of clear policy frameworks, siloed departmental responsibilities, and risk aversion among public officials.	Requires a shift from compliance-based to strategic, outcome-based procurement, often necessitating inter-departmental collaboration.

<b>Market</b>	Insufficient supply of qualified experts, lack of standardized technical specifications, and limited competition in tenders.	Demands innovative tender design, focusing on functional requirements and life-cycle costing rather than prescriptive solutions.
<b>Technical</b>	Difficulty in quantifying and valuing the multiple co-benefits (e.g., biodiversity, health, climate resilience) and the long-term maintenance needs.	Requires the development of new evaluation criteria that integrate non-monetary value and long-term performance indicators.

**Credits: Ri-elaboration by the authors. Source: European Commission. (2020). Public procurement of nature-based solutions: Addressing barriers to the procurement of urban NBS: case studies and recommendations. Luxembourg: Publications Office of the European Union.**

The move from a "product-driven" to a "performance-driven" approach is central to successful NBS procurement. Instead of specifying what to build (e.g., a certain type of tree or pavement), the procurement process must specify what outcome is desired (e.g., a 50% reduction in surface water runoff, a 2°C reduction in local temperature, or a measurable increase in biodiversity). This shift demands greater flexibility and a willingness to embrace innovative solutions from the market. At the same time, a performance-driven approach should be understood as the result of integrated strategic thinking at the city or district level, where desired impacts are defined upstream and subsequently translated into coherent technical and procurement requirements.

### 2.1.2 Planning Cultures and Procurement Approaches in Front Runner Cities

The challenge of procuring NBSs is further complicated by the diverse planning cultures and institutional settings across Europe. The four URBREATH FRCs operate within distinct climatic zones and administrative traditions, leading to varied approaches to integrating NBSs into their public procurement strategies. Understanding these local contexts is crucial for developing a replicable model, as proposed in Chapter 3 below.

#### Leuven: The Atlantic Climatic Zone and Co-Creation

Leuven, situated in the Atlantic Climatic Zone, is characterised by a strong emphasis on collaborative governance and a long-term, strategic vision for climate adaptation. The city's approach to NBS procurement is deeply embedded in its "People-driven: Adapting Cities for Tomorrow" (PACT) vision (City of Leuven, n.d.). This culture prioritises co-creation and citizen engagement, which directly influences the procurement process.

In Leuven, procurement for NBS often moves beyond simple transactional contracts to embrace process-oriented tenders. This means the procurement process itself is designed to facilitate dialogue and iterative development with potential suppliers and local stakeholders. The focus is on finding partners who can deliver solutions that are not only technically sound but also socially accepted and integrated into the city's broader strategic green plan. This approach helps to mitigate the institutional risk associated with NBS novelty by distributing ownership and expertise. The challenge for Leuven lies

in translating these complex, co-created outcomes into legally robust and measurable tender specifications, ensuring fair competition while maintaining the flexibility required for true innovation.

### **Tallinn: The Boreal Climatic Zone and Strategic Public Procurement**

Tallinn, representing the Boreal Climatic Zone, is distinguished by a more strategic and systematic approach to public administration, often leveraging digital solutions and a focus on circular economy principles. The city's procurement strategy is increasingly viewed as a tool for achieving broader climate and circular economy goals (City of Tallinn, n.d.; Stockholm Environment Institute Tallinn, 2025).

Tallinn's experience highlights the use of public procurement to drive market transformation. By integrating criteria related to climate protection, circular economy, and reduced chemical use into its tenders, the city is actively shaping the supply side for NBS. This is evident in projects that focus on community-led adaptation and green infrastructure, where the city acts as a sophisticated buyer, demanding high environmental performance and life-cycle considerations. The challenge here is overcoming the traditional constraints of public finance and risk aversion, which can favour conventional, lower-risk solutions over innovative, yet potentially more impactful, NBS. The Boreal context, with its specific ecological and climatic demands, also requires a high degree of technical expertise to ensure the procured solutions are resilient to harsh winters and short growing seasons.

### **Cluj-Napoca: The Continental Climatic Zone and Citizen-Centric Green Infrastructure**

Cluj-Napoca, in the Continental Climatic Zone, is rapidly developing and has adopted a citizen-centric climate strategy (City of Cluj-Napoca, n.d.). The city's planning culture is characterized by ambitious green infrastructure development programs, such as the 60-kilometer green-blue corridor along the Somes River (at metropolitan level).

The procurement landscape in Cluj-Napoca is marked by a strong political will to implement major green projects, often involving significant infrastructure investment. The city's challenge lies in fostering a risk-tolerant environment that encourages innovative procurement for these large-scale projects. While the ambition is high, the traditional procurement framework can struggle to accommodate the multi-functional and long-term nature of NBS. The need for innovative procurement is explicitly recognized as a way to encourage creativity and move beyond conventional construction methods. The focus is on using procurement to facilitate the green revitalization of post-industrial areas, demanding solutions that provide both ecological and social benefits. The Continental climate, with its hot summers and cold winters, adds a layer of technical complexity, requiring robust and resilient NBS designs.

### **Madrid: The Mediterranean Climatic Zone and Institutional Innovation**

Madrid, situated in the Mediterranean Climatic Zone, faces increasingly acute challenges related to heat stress and water scarcity, making NBS a critical component of its urban resilience strategy. The city's planning teams aim to shift towards a culture of active institutional innovation to facilitate large-scale NBS implementation.

A key example of this is the procurement for the Madrid Metropolitan Forest, which involved changing management rules to allow for more participatory and deliberative processes (Romero-Muñoz & García-López, 2023; Plüschke-Altöf & Vacht, 2025) This case demonstrates a willingness to use the

public tender process itself as a mechanism for institutional change. Madrid's approach to procurement is characterized by:

1. **Focus on Performance:** Tenders are increasingly moving towards specifying desired ecological and social outcomes rather than prescriptive methods and price as the dominant decision making factor.
2. **Integration of Sustainability:** The city is actively aligning its procurement with the national Ecological Public Procurement Plan, recognizing construction as a priority sector for sustainable practices.
3. **Addressing Financial Barriers:** Like many cities, Madrid faces the challenge of attracting investment for NBS, often relying on public funding. The procurement process must therefore be designed to maximize the long-term value and co-benefits of the solutions to justify the initial investment.

The Mediterranean context necessitates a strong focus on water management and heat mitigation, which translates into specific technical requirements in the procurement documents, such as drought-resistant species and highly efficient water-saving systems.

### 2.1.3 Conclusion: Towards a Strategic NBS Procurement Model

The experiences of the four FRCs, spanning diverse climatic zones and planning cultures, underscore a common thread: the traditional public procurement model is inadequate for the complexity of NBS. While each city has unique strengths—Leuven's co-creation, Tallinn's strategic integration, Cluj-Napoca's ambitious infrastructure, and Madrid's institutional innovation—they all share the need for a procurement framework that is:

- **Outcome-Oriented.** Focused on the multi-functional benefits and long-term performance of the NBS.
- **Flexible and Innovative.** Capable of accommodating novel solutions and fostering market competition among specialised suppliers.
- **Integrated.** Aligned with broader climate, social, and economic policies, moving beyond siloed departmental thinking.

The following chapter will build upon these insights to propose the URBREATH model for public procurement, designed to provide a flexible yet structured guide for cities to overcome these barriers and effectively implement NBS interventions.

### 3 The URBREATH model on Public Procurement

This section presents the results of the analytical work conducted within WP6, focusing on the identification, assessment, and adaptation of procurement processes for the implementation of Nature-Based Solutions (NBS) across the four Front Runner Cities (FRCs): Cluj-Napoca, Leuven, Tallinn, and Madrid. The objective of these activities is to explore the current procurement practices in each of the Front Runner Cities, identifying opportunities, challenges, and context-specific adaptations, and to compare these with an ideal procurement model that captures the key procedural, regulatory, and governance dimensions relevant to NBS implementation.

The analysis is based on a first investigation on the state of the art of the different Cities, to grasp potentials and procurement processes that are already in place (ref. Deliverable on questionnaire, D7.7), and it builds on joint discussions held during the project's General Assembly in Tallinn (M22), where cities were invited to refine the ideal model according to their institutional realities. Each city subsequently selected case studies of existing procurement processes that shared features with their forthcoming NBS implementation, enabling a grounded comparison between the theoretical framework and real-world practice.

The following subsections present: the ideal procurement model, grounded in recent European Commission regulations ([Section 3.1](#)); initial insights into the current state of public procurement in the Front-Runner Cities ([Section 3.2](#)); and an analysis of the challenges and opportunities associated with the procurement models currently adopted in each city, compared with the ideal model proposed by the project ([Section 3.3](#)).

#### 3.1 The Model and its Features

The ideal procurement model developed within the project provides a conceptual and methodological framework designed to support the FRCs in implementing transparent, efficient, and innovation-oriented procurement processes for NBS. It was elaborated through a comparative review of existing procurement systems, identifying key procedural components that can be generalised and adapted across diverse governance and regulatory contexts.

This model captures the core logic of a complete procurement cycle, organised into six interrelated stages that correspond to the critical decision-making and implementation moments typically observed in public procurement. Each stage is structured to ensure coherence between strategic objectives, administrative procedures, market engagement, and long-term evaluation.

The model serves as an idealised benchmark against which each city can reflect on its own practices, identify potential gaps and challenges, and explore opportunities for procedural innovation and cross-departmental collaboration. The six steps of the ideal NBS procurement model have been identified, taking into consideration the main EC Regulation on the topic and the main domains of the URBREATH project. To better integrate into the single model different aspects of the public procurement processes (see also [Section 1](#) and [Section 2](#)), the steps are described as follows (Figure 1):

- **Step 1 – Identification of Needs**, which includes (i) the definition of local needs and contextual conditions, and (ii) compliance with the current regulatory framework. This initial phase should

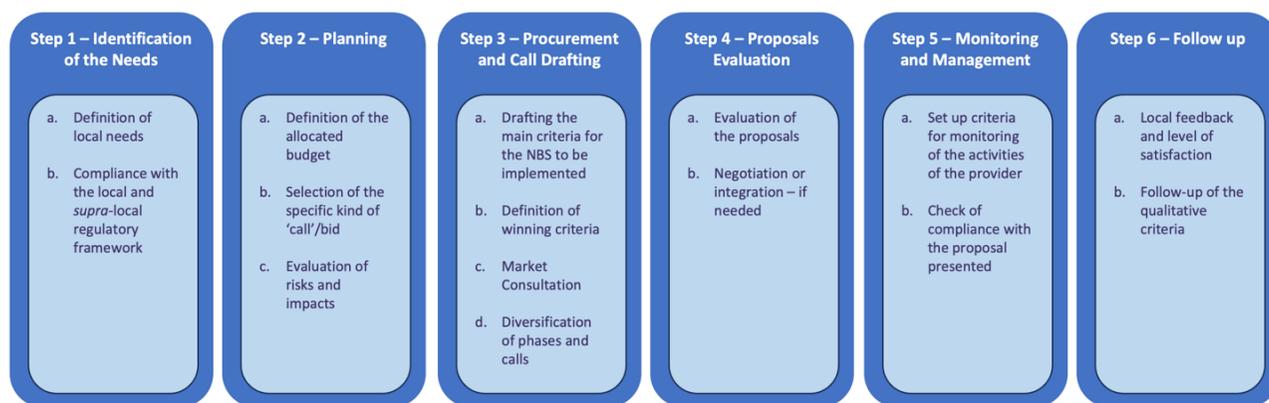
be framed within the broader urban context, reflecting the city's strategic vision, long-term ambitions and policy objectives. The identification of needs can therefore be understood as a form of 'City Diagnosis', enabling the alignment of local NBS interventions with wider strategic visions and scenarios related to nature and Green Infrastructure. In this sense, NBS ambitions should be articulated not only in relation to the expected improvements at the local scale, but also in terms of their contribution to the achievement of overarching city-wide strategic objectives.

- **Step 2 – Planning**, which sets the basic information starting from Step 1, and defines priority actions, depending on the specific needs detected and analysed in the given context. This step includes such sub-steps, such as: (i) budget definition, which is essential to ensure that the process can be feasible from an economic point of view; (ii) selection of the type of call, as there is no *one option only*, but public procurement can be performed and tested in different ways (see D7.5; D7.7); (iii) evaluation of risks and impacts, which is important to ensure that the procurement process is considering any potential uncertainty that may emerge, and secure more robust procurement practice; (iv) market research, feasibility studies and preliminary research, in order to ensure that the parameters of the investment put in Step 3 are actually feasible, and align with the capacity/technologies/knowledge of providers, and with the allocated budget.
- **Step 3 – Procurement and Call Drafting**, which is the main core of the 'document', enabling the NBS public procurement process to happen. This step is essential, and it considers all the details and information that needs to be provided for the public bidding process and the procurement itself. This step includes: (i) the drafting of the main criteria, which are basically those criteria that must be accomplished for considering 'valid' an application (both from the point of view of the NBS performance – if possible, and from a Step 2 perspective, which is more related to budget and risk management); (ii) the definition of the winning criteria, which is important, on the one hand, to set a benchmark and make comparison among similar projects and their proposals and, on the other hand, to assign weights to different main criteria identified previously; (iii) market consultation and mapping, which help public authorities understand the supply landscape, engage suppliers early, and ensure requirements are realistic. By engaging with the market early, authorities can clarify requirements, ensure feasibility, and promote competition. The last sub-step of this phase is (iv) the diversification of phases and calls, which is an organisational process through which public administrations could plan in advance the phases of the project, considering the concept design (ref. D6.1 - Deployment, Monitoring and Validation Plan & Report).
- **Step 4 – Proposal Evaluation**. This step focuses on the evaluation of the different proposals received for procuring NBS. It focuses on the (i) evaluation of the different proposals, taking into consideration the requirements described in Step 3, particularly those related to the criteria for accomplishing the call. Furthermore, in this phase, public administrations have the chance (ii) to investigate potential negotiations for best achieving the expected results and to better fit

the purpose of the NBS project. This sub-step is not compulsory, but it gives the opportunity to evaluate proposals that might fit the aim of the call, asking for integration and more details to the provider.

- Step 5 – Monitoring and Management.** This step involves drafting monitoring criteria for the implementation of the NBS. This is related to the activity that the city will perform with reference to the Plan of Works (ref. Deliverable D6.1 - CCC), and the identification of the KPI (Key Performance Indicators, in this regard see Deliverable D5.2 - Local baselines state and URBREATH revisited requirements and technical framework – V2, to be submitted by December 2025), which can be considered a tool to assess the kind of interventions and the potential changes of the implemented solutions. Also, this step includes a (ii) compliance check to ensure that the procurement process adheres to the legal framework (both at local level, and at higher levels, e.g. EU regulation). This activity relies on the respect of the main EU directive and principles, on the correctness of the procedures, and on the correct, fair and transparent evaluation of the proposals.
- Step 6 – Follow-up.** This step is still part of the procurement process, but in some instances, it can also be done considering other activities to verify the accountability of the project, and its implementation. In doing so, this step is designed to better understand and assess the feedback from the external users (e.g. citizens): this includes (i) the collection of local feedback on the implementation of the area, as well as the impact and benefits that can be generated by the project itself, through qualitative follow-up (ii).

**Figure 1: Visualisation of the different steps of the procurement model, with all the sub steps identified to achieve specific results and outcomes.**



Elaboration by the authors.

These steps have also been drafted and designed to respond to different analyses and investigations conducted throughout the project (up to M24). Table 2 illustrates the sources of some inputs and their integration with the EC regulation. In green are highlighted all the activities and inputs that have been already gathered from different activities within the project; in yellow are highlighted the elements

that will start to be discussed in this Deliverable<sup>1</sup>, and that will be better framed and systematised in the second release of this Deliverable (D6.8 - Procurement and city preparation for NBS intervention - V2, to be submitted in M42).

**Table 2: Inputs Used from Different Deliverables, and Discussion Points.**

Procurement Model	Activities and sub-steps	Inputs from the project
<b>Step 1 – Identification of Needs</b>	Definition of the local needs, analyzing the local context where NBS will be located, developed and implemented	Deliverable D2.4 - Use Case Scenarios and Baselines (M12)
	Compliance with the local and supra-local regulatory framework and regulations	D6.1 - NBS deployment, monitoring and validation plan & report – V1 > with the Plan of Works (M18)
<b>Step 2 - Planning</b>	Definition of the allocated budget	Deliverable D7.5 - Front Runner Cities Urban Green Investment Plan - V1 (M24)
	Selection of the kind of call the municipality would like to perform – considering the different alternatives and the potential procurement of innovative devices	Kind of call based on their traditional way of procuring NBS and other services (initial scoping)
	Evaluation of risks and impacts	<ul style="list-style-type: none"> <li>• Living Labs activities (WP5)</li> <li>• Internal municipal assessment</li> <li>• Input from this deliverable (D6.7) with challenges and opportunities (D6.8, M42)</li> </ul>
<b>Step 3 – Procurement and Call Drafting</b>	Drafting of the main criteria for the NBS to be implemented	<ul style="list-style-type: none"> <li>• Proposed criteria to be assessed could be those listed in:</li> <li>• D6.4 - Technical and Institutional Requirements</li> <li>• KPI assessment (T5.6) and social (e.g. accessibility, inclusivity) and economic conditions (long-term economic feasibility, green gentrification and real estate market).</li> </ul>
	Definition of criteria for the winning proposal	To be discussed with cities (to be included into D6.8 - Procurement and city preparation for NBS intervention - V2, M42)
	Market Consultation and related Stakeholders mapping	Deliverable D7.5 - Front Runner Cities Urban Green Investment Plan - V1 (M24) D7.7 – Framework for collaborative holistic procurement models with case studies
	Diversification of the phases and calls	D6.1 - NBS deployment, monitoring and validation plan & report – V1 > with the Plan of Works (M18)

<sup>1</sup> This Deliverable focuses on the traditional way of Front Runner Cities to procure NBS. The focus is on the ordinary practices, with a specific analysis on best practices and key elements of the different four Cities.

Procurement Model	Activities and sub-steps	Inputs from the project
<b>Step 4 – Proposals Evaluation</b>	Evaluation of proposals	To be discussed with cities (to be included into D6.8 - Procurement and city preparation for NBS intervention - V2, M42)
	Negotiations or integration, if needed	To be discussed with cities (to be included into D6.8 - Procurement and city preparation for NBS intervention - V2, M42)
<b>Step 5 – Monitoring and Management</b>	Set up criteria for the monitoring of the activities from the winning actor	KPI assessment (T5.6)
	Check of compliance with the proposal presented	To be discussed with cities (to be included into D6.8 - Procurement and city preparation for NBS intervention - V2, M42)
<b>Step 6 – Follow up</b>	Local feedback and level of satisfaction	WP5 Activities – Local Living Labs
	Follow-up of the qualitative criteria (e.g. participation, Local Living Labs)	WP5 Activities – Local Living Labs

Elaboration by the authors.

### 3.2 First insights in the Front Runner Cities

The procurement model identified and discussed in [Section 3.1](#) has been the objective of a progressive work done with the FRCs (see also Deliverable D2.2 - URBREATH methodological framework for urban greening Living Labs and hybrid/ NBS interventions and adaptive pathways - V2, to be submitted in M24).

The first insights to deepen the topic of procurement in the different FRCs and to understand their maturity level in this regard is to investigate how the Cities are ordinarily procuring NBS and other kinds of services. This analysis is crucial for three main reasons:

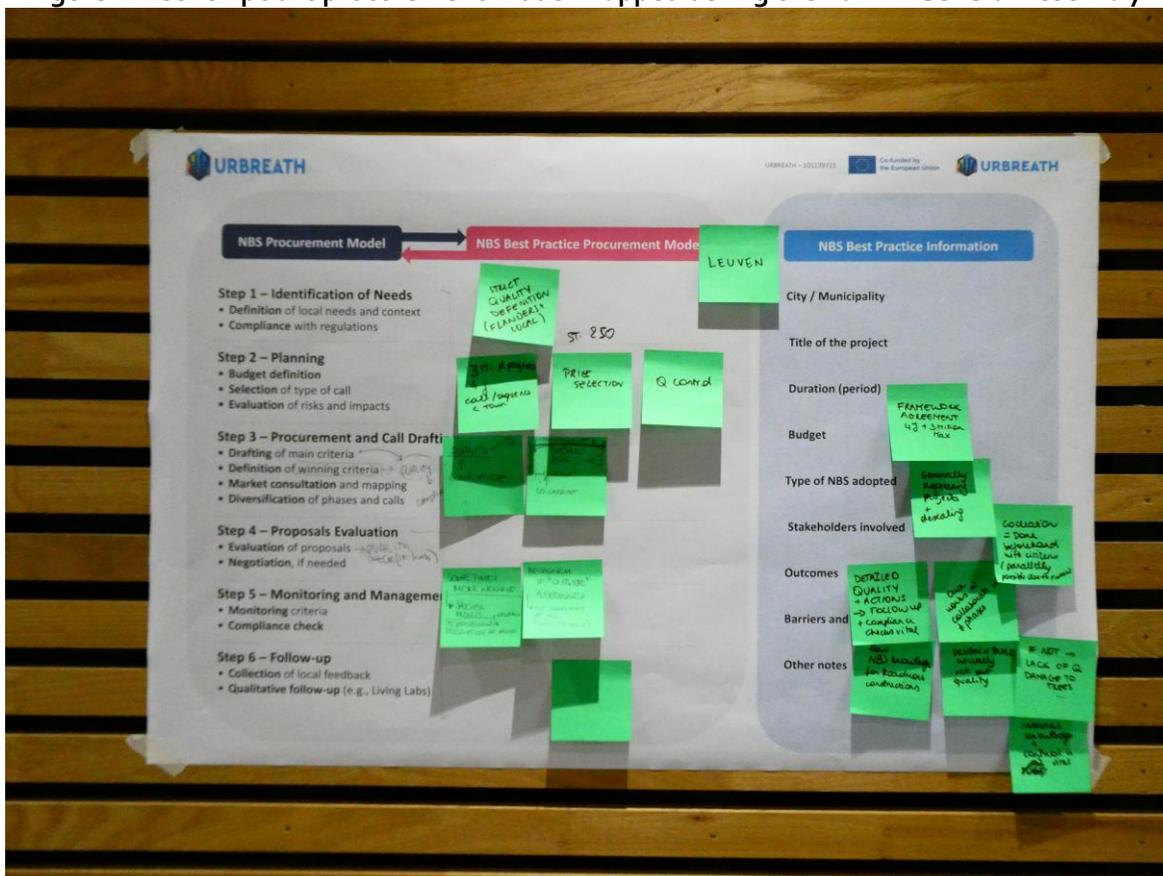
- It helps FRCs to focus on the public procurement processes in their city, assessing challenges, barriers and opportunities for improvement
- It gives a preliminary overview of the different procurement practices with regard, and in comparison, to the procurement model.
- It highlights the commonalities and dissimilarities, and deviation from the model enabling the drafting of a NBS procurement model that can be replicable.

This Section is intended to provide a general overview of the differences among the four FRCs based on their experiences in NBS procuring, and in comparison, with the procurement model. This exercise allows identifying the barriers and opportunities that might arise in procuring NBS, and it serves as a common ground from which to outline the NBS procurement framework to be delivered with the second release of this Deliverable (ref. Deliverable D6.8 - Procurement and city preparation for NBS intervention - V2, to be submitted in M42).

## Leuven, Atlantic Climatic Zone

The analysis of the procurement framework in Leuven demonstrates a high degree of alignment with the ideal procurement model developed within the project. Leuven’s procurement procedures are methodologically robust and well-suited to support the implementation of Nature-Based Solutions (NBS) through transparent, quality-oriented processes. The city’s model follows all six steps of the ideal framework, with specific mechanisms ensuring a balance between price competitiveness and quality assurance, as well as the capacity to engage in dialogue and negotiation when required. Briefly, the following sections outline the specificities of the Leuven procurement process, in alignment with the model (Figure 2).

Figure 2: Leuven public procurement model mapped during the Tallinn General Assembly.



### Step 1 – Identification of Needs

In Leuven, this phase is characterised by a strict quality definition process. It includes:

- Identification of local needs and project context;
- Verification of compliance with national and regional regulations.

This approach ensures that each procurement process is grounded in a clear understanding of the local context and remains aligned with relevant environmental and planning frameworks.

## Step 2 – Planning

The planning phase focuses on defining the budget and procurement strategy, carefully balancing price selection with robust quality control mechanisms. It includes:

- Budget definition;
- Selection of the type of call (open, restricted, negotiated, etc.) according to the legal framework (mostly defined by the total budget);
- Evaluation of risks and potential impacts, including environmental and social dimensions.

## Step 3 – Procurement and Call Drafting

Leuven places particular emphasis on drafting transparent and well-structured calls. The city explicitly integrates quality and compliance considerations into its evaluation and award criteria, ensuring that suppliers are selected not solely based on cost but also on qualitative performance.

This step includes:

- Drafting of the main criteria, including the specific materials required, methods of work to ensure quality measures (e.g. Safety border around trees which must be respected, and where the surface layers have to be manually removed). Control mechanisms are also mentioned (and followed up/executed by the town on a regular basis);
- Definition of winning criteria (usually cost-based, yet the quality is strictly defined in the actual procurement file, in order to ensure the quality is incorporated);
- Market consultation and mapping of potential suppliers (when it is a known procedure, usually the market and possible suppliers are already known);
- Diversification of phases and calls, where appropriate, to enable more adaptive project implementation. This refers to the possibility of structuring procurement into different steps or separate calls when this supports more effective project management. For instance, preliminary works may be procured separately from main works, or distinct calls may be issued for specialised tasks.

## Step 4 – Proposal Evaluation

Proposals are assessed through a rigorous quality review process. Evaluation committees apply predefined scoring systems that prioritise compliance with technical, environmental, and social criteria. In many cases—such as framework agreements—the evaluation is primarily price-based: quality requirements are considered baseline conditions that bidders must fully meet in order to submit an offer. If a supplier cannot comply with these essential technical or qualitative specifications, their proposal is not admissible. However, depending on the procurement procedure, additional approaches may apply. Some processes may include more detailed multi-criteria assessments or negotiation phases, allowing the contracting authority to refine offers, clarify conditions, or enhance alignment with project objectives before awarding the contract.

This stage includes:

- Evaluation of proposals, based on the applicable criteria;
- Negotiation, where relevant, to refine offers or clarify conditions prior to contract award.

## Step 5 – Monitoring and Management

Leuven's monitoring system is notably advanced, making use of an e-procurement platform that enables detailed tracking of both procurement procedures and implementation phases. During the procurement phase, any deviation from expected results or procedural requirements is formally documented and, where necessary, may lead to additional negotiations or, in some cases, to the relaunch of the tender if compliance cannot be achieved.

In parallel, in situ follow-up and monitoring activities are carried out during the implementation phase to ensure quality and performance on the ground. These include sampling, quality control and verification of compliance with legal and contractual standards throughout project delivery.

This step therefore includes:

- **Monitoring of procurement procedures**, from tender launch to contract award;
- **Monitoring and management during implementation**, including on-site follow-up, quality control and verification of compliance with legal and contractual requirements.

### Step 6 – Follow-up

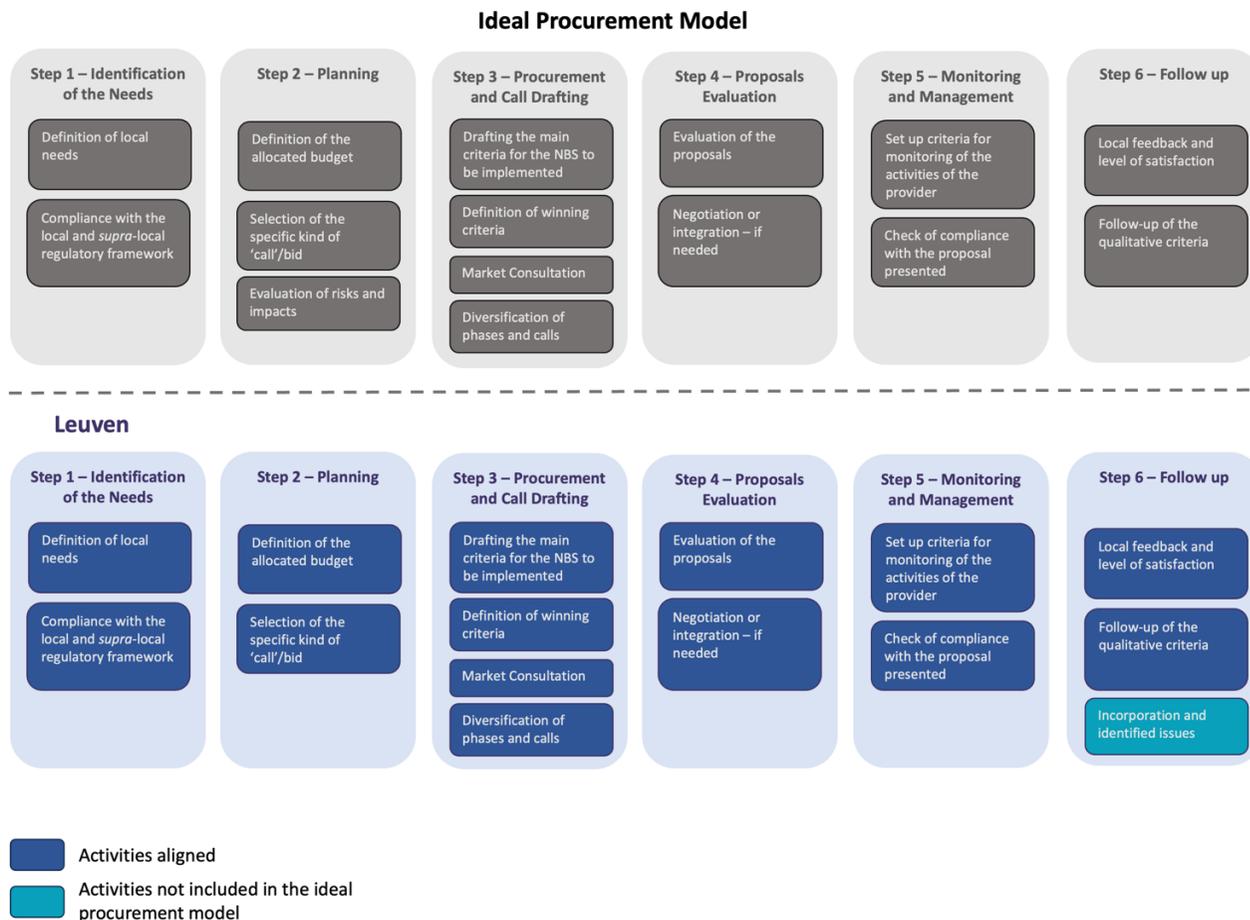
The follow-up phase in Leuven mirrors the ideal model and forms an integral part of the city's commitment to continuous improvement. While participatory and qualitative feedback mechanisms—such as Living Labs—may be used to reflect on the outcomes and impacts of implemented NBS, the follow-up process is primarily internal.

Local feedback is collected and reviewed within the administration. When specific issues or points requiring attention emerge during implementation (e.g., soil quality, maintenance standards, or technical specifications), these insights are systematically integrated into future procurement procedures. This iterative process ensures that each new procurement cycle benefits from lessons learned, progressively improving the quality, efficiency, and sustainability of NBS implementation. This stage includes:

- Internal collection and review of local feedback;
- Incorporation of identified issues into subsequent procurement processes;
- Optional qualitative follow-up through participatory approaches, such as Living Labs, when relevant.
- In addition, unsolicited feedback or complaints received from citizens after implementation are addressed on a case-by-case basis. This feedback is not systematically collected for each project but, when quality or compliance issues emerge—either through citizen notifications or internal monitoring—corrective actions may be required from contractors.

Overall, Leuven represents the closest practical implementation of the ideal procurement model among the Front-Runner Cities (Figure 3). Its approach combines procedural rigour with adaptability, demonstrating how public procurement can effectively function as a strategic instrument for sustainable urban transformation.

Figure 3: Comparison between the ideal procurement model and Leuven’s procurement practices.

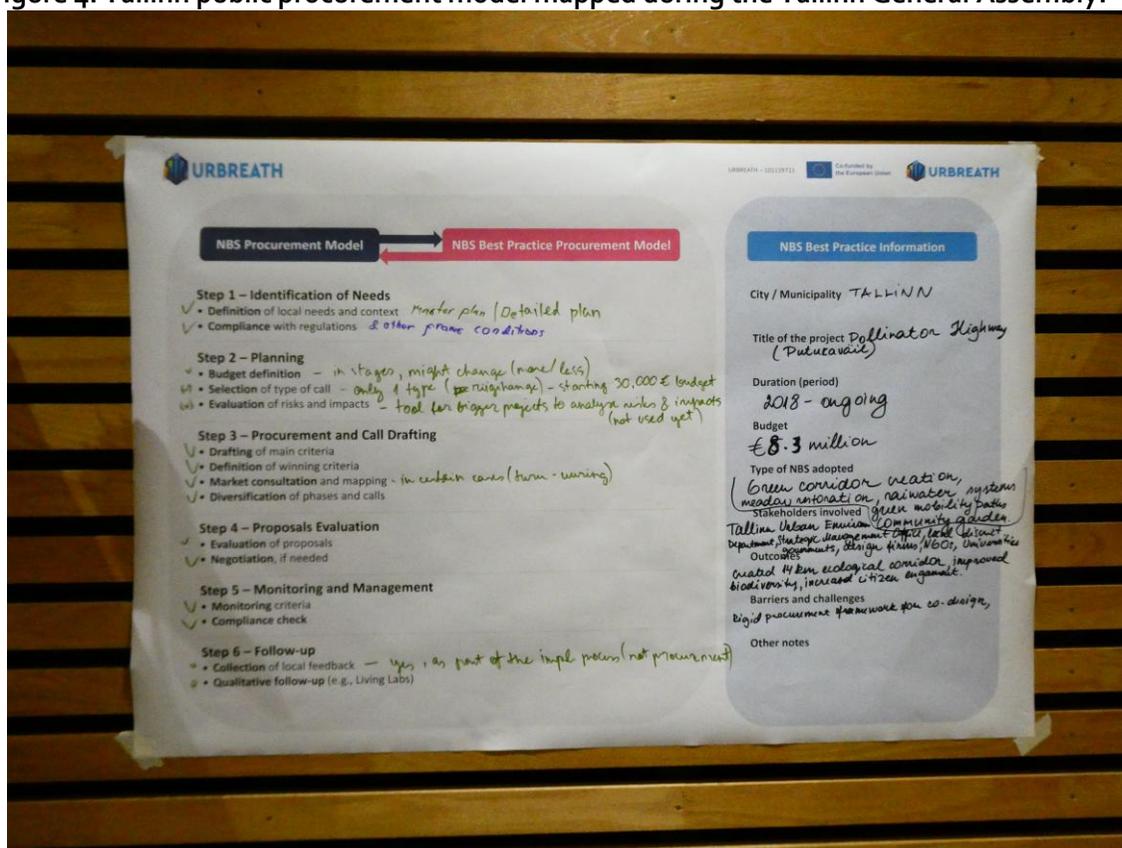


Elaboration by the authors.

## Tallinn, Boreal Climatic Zone

In Tallinn, the procurement process largely follows a conventional public administration structure, with specific features reflecting the Estonian legal framework and municipal planning system. While the city’s procedures are generally consistent with the ideal procurement model, certain adaptations arise due to regulatory constraints, project scale, and established administrative practices. The following sections provide an overview of Tallinn’s procurement process, highlighting its specific features in line with the established model (Figure 4).

Figure 4: Tallinn public procurement model mapped during the Tallinn General Assembly.



### Step 1 – Identification of Needs

The procurement process in Tallinn begins with a structured identification of local needs, which are typically embedded within urban planning instruments such as the Masterplan or Detailed Plan. This phase includes:

- Definition of local needs and the contextual framework derived from urban development plans;
- Verification of compliance with relevant regulations and other framework conditions, including environmental and spatial planning requirements.

This alignment ensures that all procurement actions are anchored in long-term strategic planning and statutory development objectives.

## Step 2 – Planning

The planning phase in Tallinn is characterised by a staged budgeting approach and a standardised tendering framework.

- Budget definition occurs in stages and may evolve over the course of the project, depending on funding availability and design adjustments;
- Selection of the type of call is relatively rigid, as only one type of procurement procedure is typically applied once the project budget exceeds €30,000;
- Evaluation of risks and impacts is supported by analytical tools for larger projects, although these are not yet systematically applied to NBS-related interventions.

This phase illustrates the coexistence of a well-defined legal structure and an ongoing process of institutional learning regarding adaptive risk management.

## Step 3 – Procurement and Call Drafting

Tallinn's procurement documentation is generally comprehensive, with a strong focus on transparency and compliance. In brief:

- Drafting of the main criteria and definition of winning criteria follow formal templates established by national regulations;
- Market consultation and mapping activities are applied selectively, particularly in projects requiring specialised expertise;
- Diversification of phases and calls is possible but not common practice, as most procurement procedures are structured as single calls covering the full project scope.

While the city demonstrates a solid procedural foundation, opportunities remain for greater market engagement and early-stage collaboration with suppliers, especially for innovative or complex NBS projects.

## Step 4 – Proposal Evaluation

The evaluation phase includes:

- Quality-based assessment of submitted proposals according to predefined technical and financial criteria;
- Negotiation, when necessary, to clarify offers or adjust terms prior to contract signing.

This step is consistent with the ideal model, although in practice the scope for negotiation remains limited by regulatory constraints.

## Step 5 – Monitoring and Management

Monitoring is carried out in accordance with legally defined criteria and standards:

- Compliance checks are systematically performed throughout implementation to ensure alignment with contract terms and regulatory provisions;
- Monitoring tools are primarily administrative in nature but may evolve towards more outcome-based approaches as experience with NBS procurement increases.

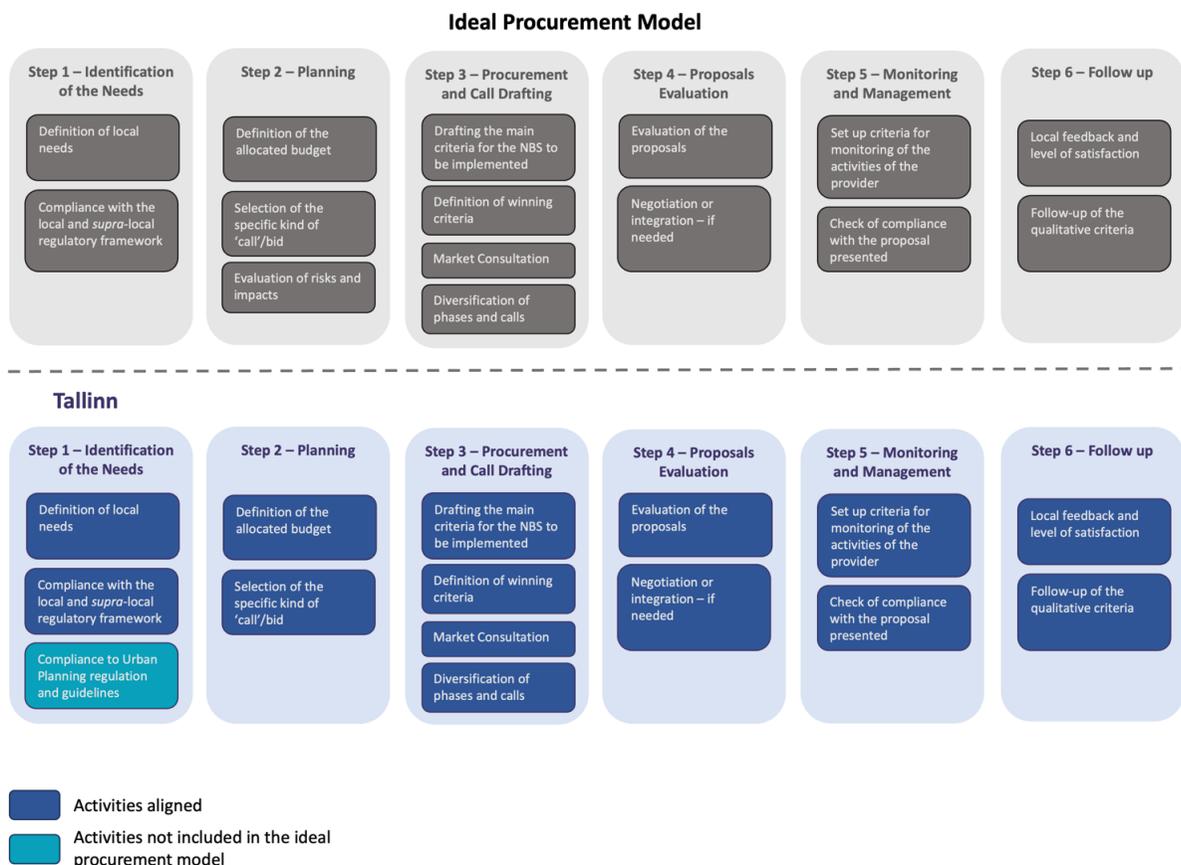
### Step 6 – Follow-up

Follow-up activities are not formally embedded in the procurement process but are instead integrated into the implementation stages of the project cycle:

- Collection of local feedback occurs during implementation rather than post-procurement;
- Qualitative follow-up activities, such as Living Labs, are employed as participatory mechanisms to gather stakeholder insights and evaluate impacts from a broader socio-environmental perspective.

Similarly to the Leuven case, Tallinn shares a quite robust procurement procedure, which is aligned with the ideal model drafted (Figure 5). In general, although some regulative and administrative (institutional constraints), NBS public procurement and NBS can be considered aligned with the EC regulation, and it also considers collaboration with the Planning Department.

Figure 5: Comparison between the ideal procurement model and Tallinn’s procurement practices.



Elaboration by the authors.

### Cluj-Napoca, Continental Climatic Zone

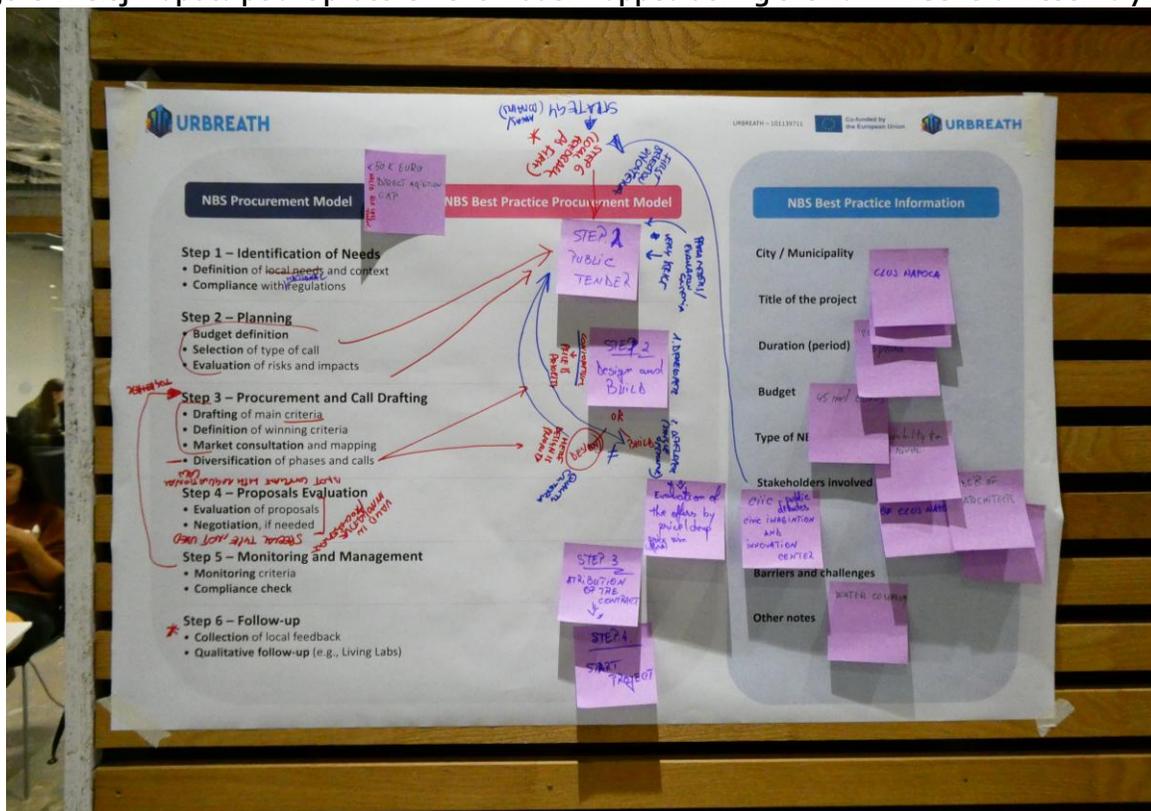
In Cluj-Napoca, the analysis revealed that while the ideal model provides a useful reference for structuring procurement processes for NBSs, the actual procedures in Cluj-Napoca are strongly conditioned by national procurement laws and budget thresholds that determine the type and level of

procedure to be adopted<sup>2</sup>. The process typically includes a preliminary phase before launching the official tender, which includes:

- Strategy definition, to establish objectives and priorities (which is more related to urban planning and long-term vision matters);
- Collection of local feedback, ensuring that stakeholder perspectives are considered in defining the procurement scope (ref. Step 1);
- First selection on criteria, used to frame the subsequent call and evaluation parameters (ref. Step 3).

This preliminary phase takes into consideration some of the key elements and procedures from the steps designed in the ideal model for procurement. In this way, the steps and the sub-activities have been re-organised following the typical procurement processes adopted in Cluj-Napoca (Figure 6).

Figure 6: Cluj-Napoca public procurement model mapped during the Tallinn General Assembly.



<sup>2</sup> The current threshold for direct procurement in Romania is 270,120 lei (approx. 53,100 EUR), excluding VAT, for products and services, and 900,400 lei (approx. 177,000 EUR), excluding VAT, for works. Furthermore, contracting authorities may procure directly through the SEAP electronic catalogue up to these thresholds. Another important limit is 9,000 lei (approx. 1,770 EUR), excluding VAT, below which procurement can be carried out directly, without prior acceptance of an offer. For projects above €53,100, a more complex procedure is applied, structured in a series of phases that partially align with the ideal model but also reflect the specificities of the Romanian procurement system.

### **Step 1 – Public Tender**

This step substitutes ‘Step 1 - Identification of Needs’ stage foreseen in the ideal model, as public tenders in Cluj-Napoca already embed the initial needs assessment and regulatory compliance activities within the tendering process itself. This step includes a variety of elements and sub-activities that are differently organised in the ideal model of procurement:

- Definition of local needs and project context
- Compliance with national and local regulations
- Establishment of parameters and evaluation criteria (which are generally strict and predefined by law)
- Budget definition and selection of the type of call
- Preliminary evaluation of risks and impacts
- Drafting of main criteria and definition of winning criteria
- Market consultation and mapping (where applicable)
- Definition of monitoring criteria and compliance checks

This step can be considered the most important as it sets the basis and the conditions under which certain kind of projects and proposals can be considered.

### **Step 2 – Design and Build**

At this stage, the city has two options and approaches towards the design and the implementation:

- Step 2 (a) - Integrated Design & Build, where both the phase of designing and implementing are managed by a consortium of developers, with price and budget as the main evaluation criterion; or
- Step 2 (b) - Separated Design and Build, where the design phase is awarded based on quality criteria (e.g. technical excellence, innovation), while the construction phase is typically awarded to a single developer, again with price as the primary determinant.

### **Step 3 – Contract Attribution**

Following the evaluation of different proposals, the contract is formally awarded to the selected operator. The decision is based on the pre-defined evaluation criteria selected and drafted in the preliminary Step.

### **Step 4 – Project Initiation**

Once the contract is attributed, project implementation begins. The city of Cluj-Napoca makes sure that the requirements for compliance are respected, as well as the implementation relies on monitoring criteria.

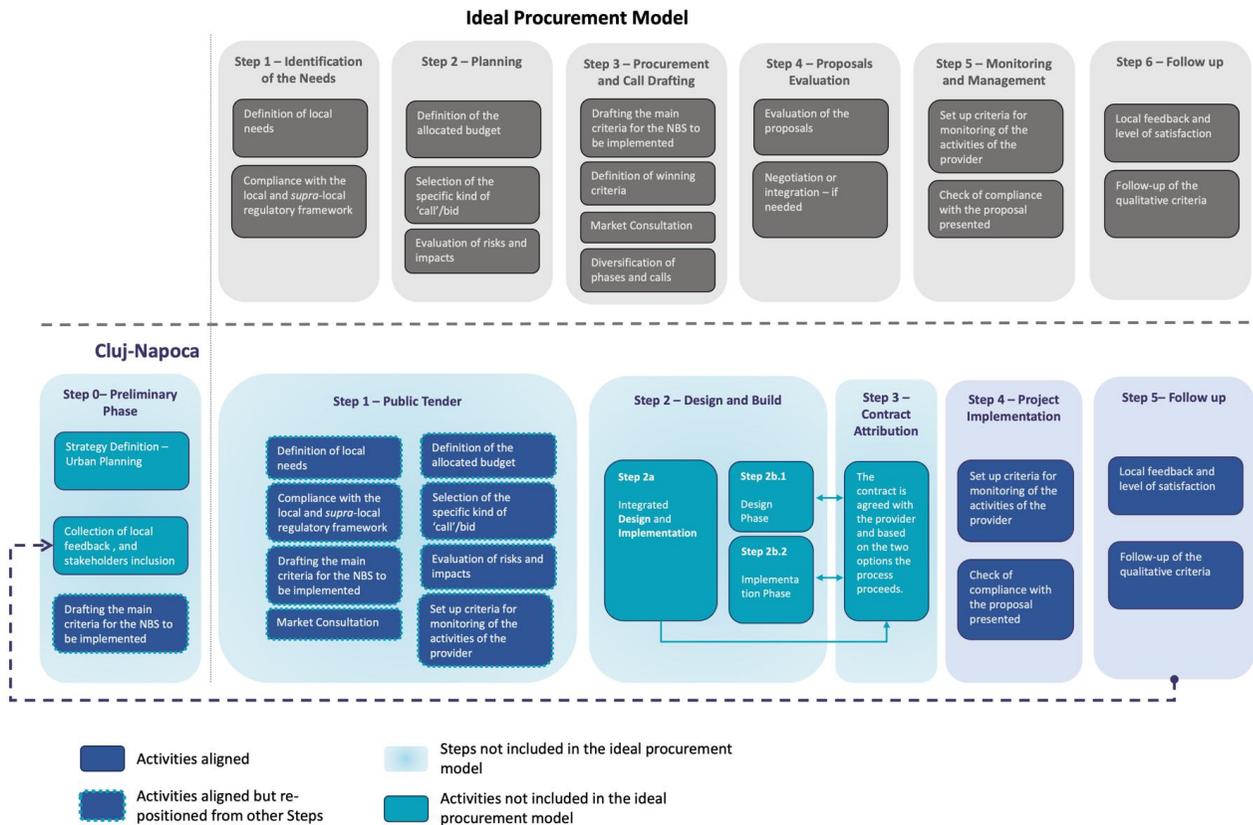
### **Step 5 – Follow up**

The city of Cluj-Napoca takes into consideration the level of satisfaction and the citizens’ feedback, as they serve as the basis for the further tender (Preliminary Step).

It is important to note that innovative procurement mechanisms, such as those drafted in the ideal model (e.g. negotiated procedures or innovation partnerships), are recognised by the Romanian

National Law, but rarely applied in practice (Figure 7). In Cluj-Napoca, these are considered non-compliant with standard regulatory procedures and are thus not commonly used, especially in the context of public sector procurement.

Figure 7: Comparison between the ideal procurement model and Cluj-Napoca procurement practices.

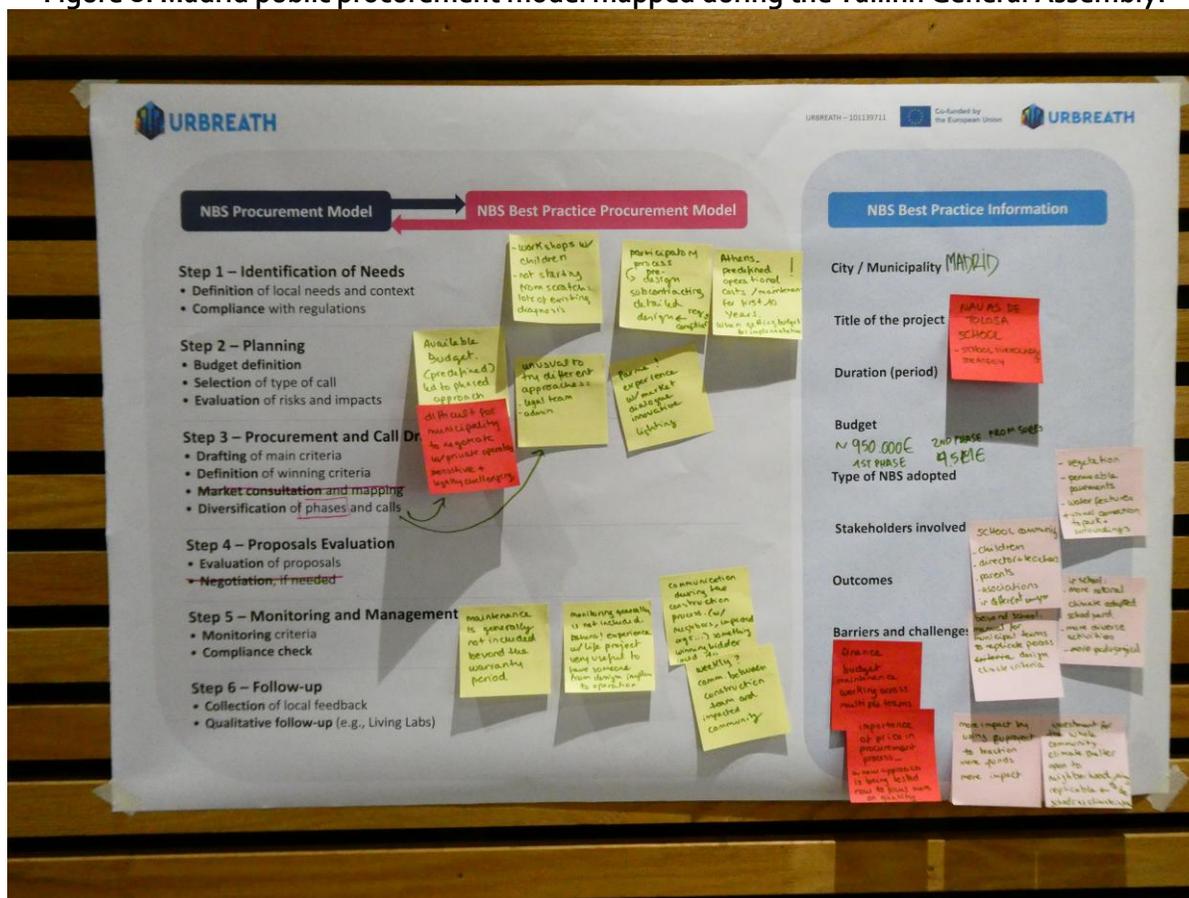


Elaboration by the authors.

### Madrid, Mediterranean Climatic Zone

The procurement framework in Madrid broadly aligns the ideal procurement model. One note to consider is that while the city often relies on subcontracting detailed design activities to specialised technical teams (through broad framework agreements or specific contracts), this is not the only approach. The decision to subcontract depends on several factors, including the scope and complexity of the project, technical requirements, internal team capacity, and time availability. This flexibility allows Madrid to balance expert external input with in-house capabilities, while maintaining full legal and procedural compliance (Figure 8).

Figure 8: Madrid public procurement model mapped through the Tallinn General Assembly.



### Step 1 – Identification of Needs

In Madrid, the identification of needs is carried out through a variety of complementary processes. While in the URBREATH context this step is strongly linked to a participatory pre-design process involving neighbourhood associations and technical departments, the city’s broader needs emerge through multiple analyses and perspectives. These include public initiatives led by the local administration, thematic sessions with citizens, or demands expressed through digital participation platforms (e.g. Decide Madrid). This diversity of inputs ensures that identified needs reflect both strategic planning priorities and community-driven requests.

Considering the multiple sources for the analysis, **Step 1 – Identification of needs** respects both:

- Definition of local needs and the broader urban and environmental context;
- Verification of compliance with applicable regulations, ensuring that all interventions adhere to national procurement standards and urban planning frameworks.

### Step 2 – Planning

The planning phase is shaped by predefined budgets, which are established in alignment with the needs previously identified. This financial structure often requires a phased approach to implementation, ensuring that available resources are matched with project priorities. This stage includes:

- Budget definition, based on existing financial allocations and directly informed by the identified needs, rather than open-ended planning;
- Selection of the type of call, which may vary but must be validated by the legal and internal audit team (*intervención*), reflecting the municipality's cautious approach towards non-standard procedures<sup>3</sup>;
- Evaluation of risks and impacts, which is mandatory for all projects that exceed a legally defined scope or scale, and therefore more commonly applies to larger interventions where environmental or social assessments are required.

### Step 3 – Procurement and Call Drafting

This phase follows a clear and rule-based structure, with strong emphasis on compliance, fairness, and transparency. This stage includes:

- Drafting of the main and winning criteria, undertaken by the municipal procurement team to ensure full alignment with legal requirements;
- Selective market consultation and mapping, carried out when relevant based on the complexity or innovative nature of the project;
- Limited diversification of phases and calls, due to legal and administrative sensitivities.

Municipalities are often restricted in their ability to negotiate directly with private operators thereby ensuring a fair and equal process for all potential bidders, ensuring compliance with legal requirements. This constraint can reduce flexibility in the tendering process.

While this structure ensures strong procedural robustness and legal security, it can also limit the municipality's ability to introduce more innovative or adaptive procurement models for NBS.

### Step 4 – Proposal Evaluation

This step includes:

- Evaluation of proposals is conducted through a quality check process, ensuring that bids meet both technical and administrative requirements;

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<sup>3</sup> Note that innovative procurement approaches in Madrid are occasionally considered, their application remains limited. Public administrations generally prefer procedural certainty and legal security, which tends to restrict experimentation and favour consolidated methods.

- Negotiation may occur when legally permissible, although it remains rare and is typically limited to clarifications rather than substantive adjustments.

The evaluation process is therefore largely formalised and compliance-oriented, rather than focused on co-creation or innovation.

### Step 5 – Monitoring and Management

Monitoring in Madrid presents certain gaps compared with the ideal model:

- For the subcontractor, maintenance responsibilities are generally limited to the warranty or contractually specified period. Once this period ends, maintenance is transferred to the relevant municipal teams (e.g., Green Areas), who verify that the project complies with technical and quality requirements before formally taking over;
- Broader performance monitoring is not systematically embedded within the procurement process;
- Communication with affected communities (such as local organisations or residents) is conducted through structured and formalised municipal procedures, never informally. These communications are managed by the relevant municipal teams and follow established requirements regarding format, timing, documentation (e.g., meeting minutes), and official channels. In the framework of URBREATH and related projects, new practices are being piloted to strengthen communication with impacted stakeholders and to enhance citizen involvement during implementation.

While these existing practices provide transparency during implementation, further institutionalisation—particularly regarding participation, multi-actor collaboration, and co-creation—could enhance alignment with the ideal model. Significant efforts from multiple municipal departments, both within URBREATH and beyond, are already moving in this direction.

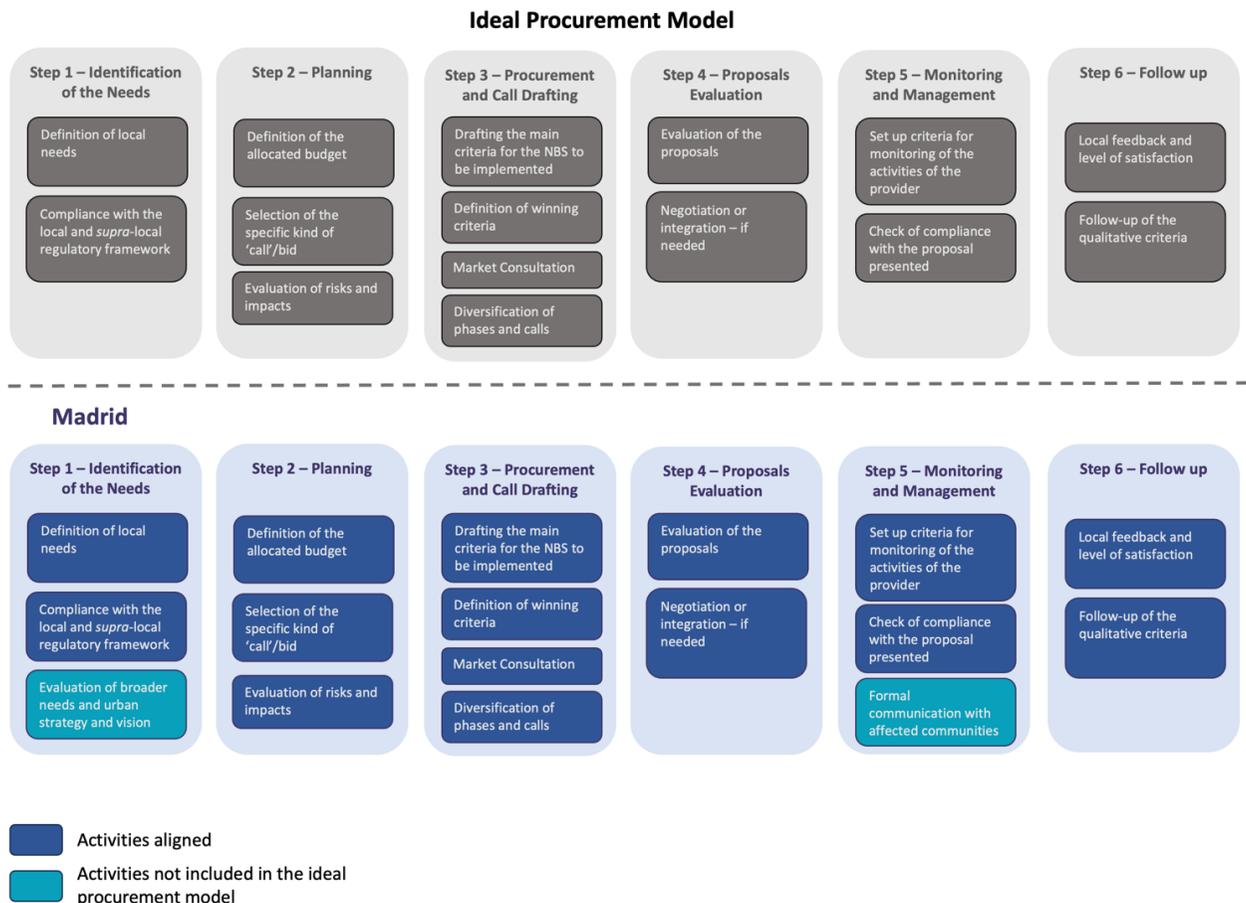
### Step 6 – Follow-up

The follow-up stage includes mechanisms for local feedback collection, often facilitated through participatory processes or post-implementation reviews.

- Qualitative follow-up activities, such as Living Labs or community consultations, may be used to assess public perception and identify lessons learnt. However, the frequency, intensity, and extent of these activities can vary significantly from one project to another, depending on the specific context, objectives, and resources available for each case.

Overall, the Madrid procurement process is aligned with the ideal model (Figure 9) with some slightly different activities in Step 1, with the identification of the needs in the city, which requires more information from different resources (e.g. surveys and participatory processes with citizens), and focuses on the strong integration and communication with the community for what concerns monitoring and management (ref. Step 5).

Figure 9: Comparison between the ideal procurement model and Madrid’s procurement practices.



Elaboration by the authors.

### 3.2.1 General Remarks

Overall, considering the four FRCs the procurement procedures are quite aligned with the proposed ideal model. In particular, the preparation steps investigating needs (Step 1) is considered essential in performing good quality NBS implementation projects, as well as defining the criteria to achieve specific goals. However, while Leuven, for example, is more oriented towards the quality of the project – and there are also specific requirements enabling this kind of measurement, cities such as Tallinn, Cluj-Napoca are more prone to align these requirements with specific planning tools and planning regulations, to comply their contextual planning framework. Generally, the Step 3 is foreseen considering all the different activities described in the ideal model, but Madrid, for instance, is also considering some preliminary analysis opting for feasible subcontracting or centralisation of the procurement (in-house). For what concerns the ‘Proposal Evaluation’ (step 4) all cities are considering this phase as essential for the actual implementation of the project and, differently from the other cases, the city of Cluj-Napoca is considering two different alternatives for the implementation of the project: either to consider both the design and the implementation within a single provider, or to split

‘design’ phase and ‘implementation phase into two distinct processes, allowing for more flexibility. Monitoring and Management activities (step 5) are considered very important to reach compliance of procedures and implementations, considering also the economic feasibility and the Plan of Works; while Follow-up (step 6) activities are crucial for two main reasons: on the one hand, they enhance the interface between public administration and citizens, on the other hand – as in the case of Leuven and Cluj-Napoca – the provided feedback serves as a significant guideline for performing better procurement tender in the future cases.

Although the ideal procurement model discussion relies on practices and the traditional way for FRCs to do public procurement, it is essential to consider which are the key challenges and barriers, as well as opportunity for innovation and process enhancement: the next section will focus on these two elements.

### 3.3 Challenges and Opportunities

Following the reflections and discussions in the previous sections, to deep dive into more specific questions and issues, a dedicated **Google Form** is designed to collect structured inputs from public procurement experts across all Front Runner Cities. The objective was to deepen the understanding of the **challenges and opportunities** associated with the current public procurement models adopted in each city, and to compare them with the ideal model proposed in the project. The questions respond to the best practice case study that was asked to refer while compiling the ideal procurement model. These questions are crucial in identifying what is working well in different contexts, considering also the potential for improvement both from an innovative and from a solution-oriented perspective.

Two questions have been asked to the Front Runner Cities<sup>4</sup>:

1. **Challenges** – *What are the main challenges or barriers you can identify while considering the process you have adopted, and in comparison with the ideal model?*
2. **Opportunities** – *From your perspective, what are the strengths of your current public procurement process, or what key elements do you consider essential for the success of NBS implementation?*

The responses gathered through this targeted tool provided valuable qualitative insights, enriching the comparative analysis by capturing the perspectives of practitioners directly involved in procurement processes. This approach made it possible to identify context-specific barriers—such as legal rigidity, procedural complexity, or limited flexibility for innovation—alongside emerging opportunities linked to capacity building, interdepartmental collaboration, digitalisation, and participatory governance. The following sections provide a detailed analysis of the responses submitted by each FRC, offering a closer examination of their specific challenges and opportunities within the current procurement framework. Some of the challenges described refers more to the overall procurement process in the cities, some

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<sup>4</sup> In both questions the Google Form allowed for ‘comments’, which increased the possibility for the Cities to highlight specificities of their public procurement model.

others are strictly related to NBS procurement and implementation. Same is for the opportunities, where FRCs emphasise the importance of having the ideal model as a tool for enhancing their own methods and tools.

### **Leuven, Atlantic Climatic Zone**

Considering the public procurement in place in the City of Leuven, this section aims at highlighting the specific barriers and challenges, together with the opportunity of their process.

This information and feedback serve as a basis for the discussion about innovation and innovative procurement approaches to be considered while implementing the selected NBS in the URBREATH pilot site.

### **Challenges**

Generally, Leuven is following all the required steps in the procurement scheme, ensuring compliancy to all legal requirements and procedures, yet also able to reuse and build-up knowledge, learning from previous projects, and ensure a detailed quality description and follow-up. Specific staff perform on-site quality control during execution of the works, sometimes tasks are separated (e.g. planting is done by internal staff, whilst preparation is done by the constructor.) Moreover, in some cases the designs are done in-house, in others is done by an external architect. In some specific cases, more innovative procurement forms or design contests have taken place as well, but are rather limited. The general experience from previous “design and build” projects is that it is better to split up the design and build phases (as already considered as an ordinary practice by the city of Cluj-Napoca), as otherwise the quality may be reduced by specific cost-cutting practices, which are no longer in control of the town itself. Innovative procurement is used rather limited, and some forms are not explored yet. Leuven is collaborating with Leuven2030, which is trying to set up a broad financial strategy for the sustainable development of the town, including a financing strategy for NBS. Innovative procurement regarding the pilot zone itself will not be possible due to the timeline of the project’s execution, yet URBREATH (and generally European projects) leave more room to scale up knowledge and explore possibilities to leverage budget for future projects or innovative procurement procedures. This could be very meaningful as budget cuts are common at all levels, yet would mean added administrative barriers (lack of experience, more time investment, ...).

### **Opportunities**

There is a standard framework for roadworks present at regional level, serving as a basis for material requirements and execution of the roads and public space works. Leuven uses all the steps and has a very extensive procurement file for public roadworks/regreening, with a lot of detailed descriptions to ensure that the works are aligned with the requests from the city. In the roadwork department, generally, there are two methods used: one where the detailed design plan is ready before procurement, or the other where several projects are bundled and estimated (less detailed) and procured in a general framework. This framework contains an extensive list of different materials (and quality requirements). Batching together multiple projects is a viable way to press costs, as the general procurement is about a bigger budget (1.5 million), and spans works over two coming years, giving the town flexibility to parallelly design and procure—rather than waiting for all the details of a specific plan

to be fully drawn out. This approach often saves time compared to starting up a design after it is completely finished and into detail, since otherwise the procurement procedure would add another 6 months between a finished design and the approval of a constructor.

### **Tallinn, Boreal Climatic Zone**

The City of Tallinn describes its procurement process as very similar and adherent to the ideal model drafted. However, performing this process presents challenges and barriers related to the institutional process but, at the same time, it allows for certain kinds of opportunities if tackled reasonably.

### **Challenges**

Tallinn's procurement regulation presents several structural constraints that shape a highly conservative and compliance-driven environment. The regulation requires summing all functionally connected items and prohibits splitting procurements, which limits the possibility of adopting phased, modular or agile approaches and significantly reduces flexibility. Additionally, each institution must prepare a strict annual procurement plan with predefined methods, estimates and timelines, making it difficult to apply more adaptive or market-responsive strategies. Tender documents and contract drafts often require co-approval from the central procurement unit, introducing additional steps and slowing down decision-making compared with more streamlined processes. The regulation also mandates formalised tender formats, defined submission rules and traceable written procedures, which restrict experimentation with more innovative methods such as iterative market dialogue or agile scoping. Moreover, the finance office holds strong oversight and payment-blocking powers, allowing it to suspend payments if any procedural issue arises, thereby increasing risk and administrative burden—particularly for processes that rely on fast implementation. Taken together, these elements create an environment strongly focused on compliance and risk avoidance, resulting in reduced flexibility, slower processes, heavier administration and limited room for innovation. This makes it challenging to align a more modern and adaptive procurement approach with Tallinn's traditional model.

### **Opportunities**

The procurement process we have adopted offers several strengths that can significantly support the successful implementation of Nature-Based Solutions. Although the process is quite strict and compliance-drive, the six-steps process provides minor flexibility to use innovative approaches, allowing for agile planning, iterative scoping and phased delivery, all of which are well-suited to NBS projects that often evolve based on ecological feedback and stakeholder input. It also enables stronger early market engagement, fostering better understanding of available NBS solutions and encouraging collaboration among suppliers, experts and stakeholders, which in turn leads to more creative and site-specific proposals. Another important aspect is the focus on outcomes rather than prescriptive inputs; by emphasising performance and environmental results instead of overly detailed technical specifications, the process opens the door to more diverse and innovative NBS approaches. Moreover, it allows the integration of sustainability and co-benefits, making it easier to incorporate social, environmental and climate-resilience criteria so that procurement decisions capture the full value of NBS, rather than focusing solely on the lowest cost. The procurement process in place also promotes cross-disciplinary collaboration between departments (such as planning, environment and

infrastructure), which is essential for NBS projects that span ecological, social and technical dimensions. Finally, the process supports adaptability over the project lifecycle, an important benefit since NBS often require ongoing monitoring, adjustment and long-term stewardship; having a process that enables adaptive management rather than relying on fixed, rigid contracts represents a major advantage.

### **Cluj-Napoca, Continental Climatic Zone**

The City of Cluj-Napoca, although its discrepancy with the ideal model from a step-wise perspective, highlights some opportunities related to the procurement model they are working and dealing with daily. However, the city highlights some barriers and challenges that can emerge while considering NBS implementation.

### **Challenges**

In Cluj-Napoca, the challenges associated with procurement emerge primarily from the need to adapt procedures to significant budget constraints. Given the limited financial resources available for NBS implementation, the team had to think creatively and ‘outside the box’. Part of the required plant material was obtained through donations from several organisations, while the remaining plants were purchased at a competitive price, with the supplier acting informally as a collaborator. This approach enabled the total cost of plants for the four pilot sites to remain below EUR 15,000. However, it also generated operational constraints: planting activities required reliance on voluntary support from green space departments, as well as the mobilisation of a group of volunteers, specifically the students who designed the interventions—to coordinate and carry out the planting work. A similar approach is planned for the implementation of urban furniture, which is intended to be co-implemented with residents and volunteers in collaboration with the Transylvania Furniture Cluster and other interested stakeholders. This combination of donations, volunteer involvement and collaborative partnerships essentially defines the “procurement” model used for the pilot actions. When considering the general public procurement model, Cluj-Napoca points to a major structural barrier: the rule that the cheapest bidder who complies with all conditions must be selected. This creates a challenge for NBS and other complex investments, as it requires the preparation of very clear and specific technical requirements. In many cases, this necessitates contracting external expertise to elaborate detailed design fiches or technical specifications, adding time and cost to the process.

### **Opportunities**

In terms of opportunities, Cluj-Napoca recognises several strengths of the public procurement system, including transparency, competitive offers, and the possibility to regulate terms very clearly. The city also identifies several key elements that support successful NBS implementation: the availability of well-founded studies and feasibility assessments; a strong understanding of the technical aspects of each investment; and early preparatory discussions with economic actors before launching procurement procedures, to ensure that the planned investment is realistically deliverable within the expected cost range. Finally, Cluj-Napoca emphasises the importance of monitoring the results to verify that the expected impacts of NBS interventions are effectively achieved.

### **Madrid, Mediterranean Climatic Zone**

The procurement process in Madrid is quite similar to the one drafted for the ideal procurement model. At the same time, Madrid considers some of the steps and activities as challenging, but at the same time, highlights some opportunities that could enhance the procurement process considering the work and the implementation that they are doing in their pilot site in Villaverde.

#### **Challenges**

Madrid as a public administration, due to its mandate to safeguard legality, accountability, and procedural certainty, needs to operate with an inherently risk-averse logic. This guaranteed-based approach is essential for ensuring fairness and minimising discretionary decisions, but it also limits the adoption of innovative or experimental practices. As a result, certain approaches that may be ideal from a transformation or innovation standpoint, often fall outside the current legal and procedural frameworks of public administration and face significant cultural or bureaucratic barriers. This structural caution can slow down institutional learning, hinder adaptive management, and restrict the exploration of new governance tools or collaborative methodologies.

#### **Opportunities**

The team in Madrid considers that European projects offer a uniquely legitimised space to prototype these otherwise difficult-to-implement practices. Within their structured yet flexible frameworks, involved municipal teams can safely test new methods, governance arrangements, and operational processes in a controlled and bounded environment. This experimentation not only generates evidence, capacity-building, and cross-sector collaboration, but also opens pathways for institutionalising successful practices. Once tested, iterated and validated through European project pilots, these approaches can be progressively formalised and integrated into the structural procedures of public administration, ultimately enhancing its ability to respond to complex urban and climate challenges.

### **3.3.1 General Remarks**

All the four FRCs highlighted different challenges and barriers related to their traditional way of doing procurement, especially in relation to the NBS implementation.

One of the main challenges that is shared by all Cities is the constraints derived from the procedure itself: this element, indeed, can limit the possibility for innovation and for incorporating methods and tools enabling experimentation. Also, all cities (Cluj-Napoca excluded) point out the importance of dividing the process of implementation in different phases, which sometimes is difficult, and could lead to delays and overcomplications.

On the other hand, all the Cities focus on the importance and the positive impact that the follow-up step (ref. Step 6) can have in considering the public procurement. Also, another opportunity that has been highlighted by all cities is the possibility of integrating more than one department (e.g. Infrastructure, Planning) into the public procurement process (specifically in the preparation steps – Step 2 and Step 3).

## 4 Towards NBS Procurement in each FRC pilot area

Considering the state of the art of the different FRCs and their procurement practices, also comparing them with the ideal model drafted, [Section 3.3](#) highlights the key elements that limit the procurement procedures, for any kind of reasons, and pointed out the opportunity for improvement that could serve as a starting point for delivering more adaptive and robust procedures towards standardisation and sustainable NBS development. This section explores the potential of five different innovative procurement models, which can set the basis for the NBS implementation in the pilot site of each FRC (which will be further discussed in the second release of this document, ref. Deliverable D6.8 - Procurement and city preparation for NBS intervention – V2, M42).

### 4.1 Innovative procurement models for FRCs

Innovative Public Procurement (IPP) represents a fundamental shift in how public authorities utilise their purchasing power, transforming it from a purely administrative function into a powerful strategic tool for economic growth and societal problem-solving (European Commission; n.d.). At its core, IPP is defined as the procurement of solutions that are not yet available on a large-scale commercial basis, or the procurement of research and development (R&D) services to develop entirely new solutions (European Commission; n.d.). By acting as a sophisticated, early-adopter customer, the public sector can stimulate the market, drive the commercialisation of new technologies, and ultimately deliver better public services (Interreg Europe, 2023).

The necessity for IPP arises from the limitations of traditional procurement models, which are often narrowly focused on minimizing the initial acquisition price. This conventional approach frequently overlooks the long-term costs, environmental impact, and potential for innovation, leading to solutions that are neither efficient nor sustainable over their full life cycle (IISD, 2018). In contrast, innovative procurement encourages a move toward outcome-based specifications and life-cycle costing. Instead of dictating a precise technical solution, the public buyer specifies the problem or the desired performance outcome, allowing suppliers to propose novel and creative ways to meet that need (Barras, 1990). This process fosters a risk-tolerant environment that is essential for true innovation to flourish (World Bank, 2015)

The key drivers for the adoption of innovative procurement across Europe and globally are both economic and societal. Economically, IPP is a critical mechanism for supporting small and medium-sized enterprises (SMEs) and start-ups, providing them with a vital first reference customer and helping them scale their innovations (Interreg Europe, 2023). Societally, it enables public organizations to tackle complex, systemic challenges such as climate change, resource scarcity, and public health crises (Abbott-Halpin & Rankin, 2020). For instance, in the context of urban resilience, IPP can be used to procure Nature-Based Solutions (NBS) that offer multi-functional benefits—such as flood mitigation, biodiversity enhancement, and heat reduction—which traditional infrastructure procurement cannot achieve (European Commission, 2024).

Innovative procurement is broadly categorised into two main types: Public Procurement of Innovation (PPI), where the public sector purchases a solution that is already developed but not yet widely commercialised; and Pre-Commercial Procurement (PCP), which involves the procurement of R&D services to guide the development of a new solution from scratch. Both approaches share the common

goal of leveraging public demand to push the boundaries of what is technologically and commercially possible. As public organizations increasingly recognize their role as market shapers, IPP is becoming an indispensable component of modern public administration, ensuring that public spending is aligned with strategic policy objectives and the long-term well-being of citizens (Armour-Gemmen, 2020).

## 4.2 Challenges and Opportunities

Building on the same methodological approach adopted for the first round of interviews, a second Google Form was developed to further explore the potential of innovative public procurement models, recognised under EU law as tools capable of enhancing flexibility and supporting innovation in the implementation of Nature-Based Solutions. These questions are also based on acknowledging the ordinary procurement practices in each Front Runner City, with their limitations and opportunity for improvement. This section, specifically, aims at assessing the extent to which these procedures could be applicable, feasible, and strategically valuable, considering their specific administrative, legal and organisational contexts. In some instances, the representatives of the FRCs highlight the importance of having flexible procedures for including a certain degree of innovation, which is one of the weak elements in their daily practice. On the other hand, it is also possible to consider which kind of innovative action could be included and incorporated in the traditional procurement procedures of each Front Runner City. The form presented five procurement models (Table 3): Preliminary Market Consultations, Competitive Dialogue, Competitive Procedure with Negotiation, Innovation Partnership, and Pre-Commercial Procurement, and invited the cities to reflect on their relevance for NBS implementation.

**Table 3: Brief overview of the different innovative procurement model taking into consideration their different degree of flexibility, and their main purposes.**

Procurement model	Brief Description	Application	Level of flexibility for being applied
<b>Preliminary Market Consultation</b>	Used before launching a procedure to gather market insights and check feasibility.	When the contracting authority needs to understand market capabilities or innovations before defining requirements.	<b>Informal</b> , pre-procurement stage
<b>Competitive Procedure with Negotiation</b>	Allows negotiation on initial and subsequent tenders after evaluation.	When requirements cannot be fully specified upfront, but competition is still possible.	<b>Medium</b> , to be performed within Step 4 – Proposal Evaluation
<b>Competitive Dialogue</b>	Dialogue with selected candidates to develop solutions before final tenders.	For complex projects where technical or legal solutions are unclear (e.g., large infrastructure)	<b>High</b> , to be performed before the completion of Step 3 – Procurement and Draft Calling
<b>Innovative Partnership</b>	Joint development of innovative products/services	When the solution requires R&D (research and Development)	<b>Very high</b> , to be performed between the Step 1 – Identification of the Needs, and Step 2 - Planning

<p><b>Pre-Commercial Procurement</b></p>	<p>not yet available on the market.</p> <p>Focused on R&amp;D only (no purchase of commercial volumes), split into three phases (Solution Exploration and Design; Prototype Development; Testing and Validation).</p>	<p>and later purchase under one framework.</p> <p>When public sector wants to stimulate innovation without committing to buy the final product.</p>	<p><b>Extremely high</b>, to be performed between the Step 1 – Identification of the Needs, and Step 2 - Planning</p>
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Elaboration by the authors. Source: 'Public Procurement Procedures and Instruments in Supporting Innovation' ([European Commission, 2021](#)).

The questionnaire focused on five key dimensions:

1. Applicability to NBS – *Which of the above procedures are considered most suitable for the city’s NBS implementation?*
2. Rationale for selection – *Why were these procedures chosen?* Respondents were invited to refer to legal feasibility, organisational readiness, past experience, expected benefits or other relevant considerations.
3. Challenges – *What are the main barriers preventing the adoption of these innovative procedures?* Examples included legal rigidity, lack of expertise, administrative burden, limited flexibility, internal coordination issues or market readiness.
4. Opportunities – *What potential advantages could these models offer?* Cities were encouraged to reflect on aspects such as flexibility, early market engagement, co-design with suppliers or improved sustainability outcomes.
5. Support needs – *What types of support, guidance or capacity-building activities would enable cities to adopt one or more of these innovative procedures?*

The responses collected through this second targeted tool provided additional qualitative evidence, clarifying how institutional readiness, regulatory interpretations and internal organisational cultures shape the feasibility of adopting more advanced procurement strategies. This input enriches the project’s comparative perspective by identifying both the structural constraints that limit experimentation and the emerging opportunities for integrating more flexible and innovation-oriented procurement pathways in future NBS implementation. The subsequent sections offer a detailed review of these reflections, examining how each FRC perceives the potential and limitations of the five procedures within its local procurement framework.

### Leuven, Atlantic Climatic Zone

In Leuven, the applicability of innovative procurement procedures to NBS remains uncertain. The city indicated being “not sure” about which of the five EU-recognised procedures would be most suitable. This uncertainty is linked to the fact that the procurement process for the URBREATH pilot site had already begun, limiting the possibility of testing new approaches within the project timeline. Moreover,

adopting innovative procurement forms would require additional efforts to deepen knowledge and explore new methods, particularly within a domain that is legally complex and heavily regulated. Several challenges were identified that hinder Leuven's ability to adopt these procedures. The city recognises all the main barriers listed in the questionnaire—including legal rigidity, lack of expertise, administrative burden, limited flexibility, internal coordination issues and market readiness. In addition, Leuven highlighted concerns related to uncertainty about new methods and the potential impact on quality, noting that innovative procedures may reduce the degree of control traditionally maintained by the municipality.

Despite these barriers, Leuven also sees potential opportunities. Innovative procurement approaches could provide leverage for budgeting in greening and NBS projects, creating room for more strategic use of financial resources and potentially achieving greater impact. To advance towards the adoption of such procedures, Leuven emphasised the need for knowledge and support on the specific steps required for implementing innovative models. Guidance on how to operationalise these procedures and on the considerations to be addressed when introducing new procurement methods would be particularly beneficial.

### **Tallinn, Boreal Climatic Zone**

In Tallinn, several EU-recognised innovative procurement procedures are considered potentially suitable for supporting the implementation of NBS. The city identified 'Preliminary Market Consultations', 'Competitive Dialogue', and the 'Competitive Procedure with Negotiation' as the most relevant options for its context. In general, the City of Tallinn highlights that:

- 'Preliminary Market Consultations' are viewed as highly suitable because early engagement with the market enables the city to understand the technical feasibility of available NBS options and to shape procurement documents that are realistic and oriented toward desired outcomes.
- 'Competitive Dialogue' is also considered valuable, particularly for NBS projects where solutions cannot be fully defined in advance; this procedure allows for co-design with bidders and supports the development of context-specific and ecologically appropriate solutions.
- 'Competitive Procedure with Negotiation' is perceived as appropriate when requirements can be partially defined but still require flexibility, enabling refinement of proposed solutions—an important aspect for integrating NBS into complex urban environments<sup>5</sup>.

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<sup>5</sup> Overall, the City of Tallinn points out potentials for each of the five innovative procurement approaches. In general, Competitive Dialogue and Negotiation facilitate co-design with suppliers, resulting in solutions that are more tailored, technically robust and site-specific. These methods also create the possibility to prioritise environmental performance, multifunctional benefits and long-term value instead of focusing solely on lowest-price criteria, ultimately enhancing sustainability and quality outcomes. Furthermore, Innovation Partnerships and Pre-Commercial Procurement offer pathways for stimulating the development of new nature-based technologies, materials and methods that may not yet be available on the market. Through phased development, negotiation and prototyping, these approaches also help improve risk management, reducing uncertainty and avoiding costly implementation mistakes—particularly important for complex NBS interventions.

Despite this potential, Tallinn faces several challenges that hinder the adoption of these innovative procurement approaches. The city operates within a legally rigid and conservative procurement framework, which limits room for experimentation and constrains the use of more advanced procedures. Internal expertise on complex or innovation-oriented procurement methods remains limited, and administrative burden is high. Strict planning requirements and slow decision-making processes further reduce flexibility. Additionally, coordination challenges across municipal departments and differences in market readiness create additional obstacles to adopting innovative procurement procedures for NBS. At the same time, Tallinn recognises a wide range of opportunities that these procedures could bring. Innovative procurement approaches could introduce greater flexibility, enabling more adaptive and iterative processes that accommodate ecological conditions, stakeholder input and emerging knowledge. Early market engagement, supported through tools such as Preliminary Market Consultations, would allow the city to better understand available NBS solutions and identify capable suppliers, shaping tenders that are both realistic and innovation friendly.

To advance the adoption of innovative procurement models in Tallinn, several forms of support and capacity building would be necessary. First, awareness-raising and political advocacy would be essential to address the current lack of political will and to demonstrate, through case studies and comparative evidence, the low risk and high value of innovative procurement methods. Staff would also benefit from practical training and hands-on capacity building on procedures such as Competitive Dialogue, Negotiation and Innovation Partnerships, including instruction on structuring processes, engaging with suppliers and managing associated risks. Clear operational guidance—such as step-by-step toolkits, practical templates and examples of successful NBS procurements—would further facilitate implementation within the existing administrative framework. Access to legal clarification and expert support would help interpret how EU procurement rules can be applied flexibly within national and municipal regulations. Additionally, the city would benefit from pilot projects and external facilitation, which could help demonstrate quick wins and build internal confidence. Finally, peer learning and exchange with cities already using innovative procurement procedures would help reduce perceived risks and illustrate concrete ways to integrate such approaches into everyday practice.

### **Cluj-Napoca, Continental Climatic Zone**

In Cluj-Napoca, the procedures considered most suitable for supporting NBS implementation include Preliminary Market Consultations and the Innovation Partnership. The city explains that the relevance of Preliminary Market Consultations depends strongly on the complexity of the NBS intervention. When planned NBS involve advanced technical components (such as bioswales, rainwater management and flood protection systems, phytoremediation for contaminated soils, or more sophisticated infrastructures like green roofs and green wall retrofitting) market consultations become essential for understanding technical feasibility, market capacity and potential suppliers. For simpler interventions, however, the expertise of the landscape designer is considered sufficient, without requiring additional consultation processes. Cluj-Napoca identifies internal coordination issues as a key barrier to adopting innovative procurement approaches. The level of mobilisation of municipal resources varies according to the scale and priority of the project. Smaller NBS interventions do not receive the same level of institutional attention or coordination as major investments such as the “Rethinking Someş” programme or the construction of the new metro line. This creates uneven organisational readiness

and can hinder the implementation of more complex or resource-intensive procurement procedures. At the same time, the city highlights significant opportunities, especially in relation to Innovation Partnerships. Cluj-Napoca stresses that NBS are not simple, standardised products comparable to private-garden landscaping services offered by companies. Instead, they are tailored solutions that require research, strategic planning, environmental assessments and participatory processes. By definition, NBS are interdisciplinary and must be developed through collaboration with multiple stakeholders. Innovation Partnerships are therefore considered particularly relevant because they enable experimentation, iterative testing, and the strengthening of local partnerships. This procedure supports the co-development of customised solutions that respond to the city's specific social and environmental challenges. While Cluj-Napoca already has substantial experience in establishing and participating in Innovation Clusters, the municipality notes that further learning is needed to fully understand and apply the Innovation Partnership procurement model. Additional knowledge and guidance would help the city harness its potential more effectively.

### **Madrid, Mediterranean Climatic Zone**

In Madrid, the procedures considered most relevant for supporting NBS implementation include Preliminary Market Consultations, although the city also notes a degree of uncertainty (“not sure”) regarding the selection of the most suitable innovative procurement models. Madrid expresses interest in testing different forms of dialogue with key sector actors, recognising the value of exploring early engagement mechanisms—provided that full legal compliance is maintained. Such approaches are seen as potentially useful for increasing ambition while ensuring that procurement requirements are aligned with, and supportive of, market readiness. Madrid reports several barriers that limit the adoption of innovative procurement procedures. The main limiting factor is a combination of legal rigidity and limited prior experience, which contributes to risk aversion and reduced flexibility. The perception that “doing something for the first time” is more cumbersome adds to the administrative burden, further discouraging experimentation. Internal coordination challenges also play a significant role, particularly due to the lack of cross-departmental or non-sector-specific budgets, which makes integrated and innovative procurement processes more difficult to operationalise.

Despite these constraints, Madrid identifies substantial opportunities that innovative procurement procedures could unlock. These approaches are seen as a way to strengthen procurement's role as a market-shaping instrument aligned with critical strategic city priorities such as climate neutrality and greater social equality. To achieve this, Madrid highlights the importance of co-design with suppliers, early market engagement, increased procedural flexibility, and a reduced emphasis on cost as the primary awarding criterion, all aimed at enhancing social, environmental and sustainability outcomes. To enable the adoption of one or more innovative procurement models, Madrid emphasises the need for a strong political mandate and validation that would elevate strategic procurement to the level of a municipal “mission.” This would help bring together legal and technical teams to overcome existing barriers and work towards shared objectives. Additional support needs include access to case studies and best-practice examples, practical capacity-building, and strengthened cross-sector and public-private-citizen dialogue to co-design locally relevant and context-appropriate solutions.

### 4.2.1 General Remarks

Considering FRCs' feedback and their approach towards innovative forms of public procurement, it is essential to note that Cities highlight the risks and uncertainties that might arise while introducing new procedures. These changes imply institutional changes and – in some instances – a high level of flexibility (e.g. Innovative Partnership or Pre-Commercial Procurement), which is not always the case in the procurement model described by each FRC.

However, each FRC has expressed interest in a specific innovative procurement model, explaining how it could help improve procedures, allow for flexibility and adaptation, and enhance the multi-stakeholder interface. Overall, 'Preliminary Market Consultation' has been considered the most approachable model: this confirms the acknowledgement of each FRC that the initial scoping process, before the design of the tender process and the procurement itself, could be a valuable option, which does not imply so much of a burden to the public administrations, and do not put the process in a risky and uncertain situation. On the other hand, cities such as Tallinn and Cluj-Napoca highlight the importance of experimentation and discuss relevant arguments to potentially incorporate some elements of 'Competitive Dialogue' (Tallinn), and 'Innovation Partnership' (Cluj-Napoca). In the case of Tallinn, the inclusion of key elements and rationale of 'Competitive Dialogue' into their procurement process could help them in supporting the development of context-specific solutions, as NBS and their implementation are difficult to fully plan and set in advance. In the case of Cluj-Napoca, 'Innovation Partnership' is considered a valid option for enhancing experimentation, continuous testing and co-creation processes.

Overall, cities are already starting the development of the Plan of Works, which implies that URBREATH pilot activities are already embedded in ongoing administrative processes. However, by re-framing procurement as a phased model, cities may still be able to test and integrate selected innovations based on the identified innovation priorities.

## 5 Conclusion and Next Steps

The process of innovating public procurement in public administrations has always been crucial as it addresses structural issues and challenges in the traditional way of purchasing works, goods and services. In the case of Nature-Based Solutions (NBSs), innovation in public procurement, particularly at the level of European Cities, can be a decisive factor in improving the quality, durability, and societal impact of their greening processes. These do not only concern the installation of innovative “products” (e.g. NBSs) but also bring implications across the urban planning and policy domains and possibly call for new institutional arrangements, e.g. in the interaction between government and citizens.

This deliverable has provided an in-depth analysis of public procurement practices related to NBSs in the four FRCs of the URBREATH project: Leuven, Tallinn, Cluj-Napoca and Madrid. It represents the first of two planned releases and aims to establish a shared knowledge base to support a broader reflection on how public procurement can better enable the implementation of NBSs in urban contexts. The document has focused on a comparative overview of the procurement procedures and processes currently adopted by the FRCs, highlighting differences, commonalities and evolutionary paths towards the identification of an “ideal procurement model” for NBSs, as proposed by URBREATH.

In addition, the deliverable has outlined the key challenges, barriers and opportunities encountered by cities in applying procurement practices to NBS interventions. Building on this analysis, it explored potential areas for procurement innovation that cities would like to introduce or strengthen, with the aim of improving flexibility, integration and effectiveness in the delivery of NBSs. Finally, the deliverable has outlined a set of key procedural elements and activities that can support more integrated interventions and contribute to a convergence of NBS procurement practices across different urban contexts.

The first release of this document aimed at setting the basis for a comprehensive procurement model that can encompass different planning cultures and procurement practices. The focus of having a common model for public procurement, with specific inputs and phases can enhance the work that will be performed until the second release of this Deliverable (ref. D6.8 - Procurement and city preparation for NBS intervention – V2, to be submitted in M42), which will focus on the potential standardisation of the process, as well as the key aspects of the single phases. Next steps will be devoted to validating the procurement model in action in the different Front Runner Cities, considering their Plan of Works, and the specific NBS that will be deployed for achieving specific results. In doing so, the aim is to understand which could be generic and general pre-conditions for procuring NBS in different contexts and within different institutional settings.

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